

# COAL AGE

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## *Unfair and Unfounded*

**B**ECAUSE he daily told the President of the United States, through his secretary, of the progress the coal operators were making in their constructive program of putting the coal where it was most needed Colonel Wentz is now accused of having played politics in an effort to secretly put over under cover of governmental offices the priority orders of the Interstate Commerce Commission. It is further being charged that he did this to permit operators to ship to those who would pay high prices for coal as against those with whom the operators had low-priced contracts. The criticism is unfair and the charge unfounded.

In the issue of *Coal Age* of July 8 we said, "The present policy of temporizing with the distribution problem will lead to serious trouble this fall and winter as it did three years ago. No good can come from plastering one transportation priority order on top of another. The personnel of the Interstate Commerce Commission is no more qualified to handle national distribution of coal than was Dr. Garfield personally. Dr. Garfield called the operators to his assistance; so should those at Washington attempting to handle the situation. Either leave distribution of coal to the operators or invite them to Washington to do the work for the government. If the combined judgment of the commission, the railroads and the operators is that control of distribution is necessary, the way can be found to make it effective." It is but repeating history that this was the program followed and that the coal men did combine forces with the government and the railroads in the effort to meet the situation. That they did meet it is our opinion, for even before cold weather has set in all but one of the measures taken to put the coal situation right has been indefinitely suspended.

Something had to be done last July and the things that were done were, by common consent, the best that could be devised. And the president of the National Coal Association, as it is presumed also did the leading representatives of the railroads, kept the President of the United States informed of the progress that was being made on this program, in which the government was a party.

Just who benefited financially in the priority orders of the commission that directed coal to New England: the operator who was turned away from the export market or the consumer in New England who sat back and waited for the coal to come to him? New England wanted and got this order for the purpose of getting coal cheaper. Who benefited by the Lake priority order: the operator who was forced to send a definite share of his output to the Northwest or the consumer in that territory who demanded a lower price and got it because of the compulsion of that order?

And most important of all, who is benefiting in the open-top-car priority order unless it be the consumer?

The record rate of output that order has produced has broken down the price, just as it was foretold that it would. Individually many operators and shippers took toll as a result of each of these measures and many took losses because they were obliged to ship where the market was lower than their contracts and some were compelled to forsake high-price business to fill their share of the percentages laid on them for the favored sections. No better evidence of the fact that these acts fostered by the National Coal Association did not suit the pocket-books of all the coal trade can be found than the protest recently made by a section of the New York trade to the commission against the Lake order. These distributors contended that they were being deprived of their rights because they were obliged to ship West on priority orders when they had perfectly good business in the East.

The National Coal Association cannot tell the coal operators where to ship their coal and much less can it tell any one what to charge for coal. The latter it cannot do because of the laws of the land and the first because the coal operator and shipper is, as a tribe, not so tractable. A heavy club is all that the average run of small operator can understand when it comes to national problems and to have told shippers to send their coal to the Northwest when the price was better in some other direction would have been as effective as crying "Shoo" at a pack of hungry wolves. To contend that the officers of the National Coal Association acted in concert with the other agents to enable its members to get better prices for coal is to overlook the fact that the Cleveland meeting of that association was for the purpose of bringing into line the doubting ones who were laboring under the belief that what had been done by their officers was too highhanded and interfered too greatly with their business—for which they conceived they had not selected these officers.

Senator Calder, whose attitude and whose questioning of Colonel Wentz in New York last week at a hearing before his committee on reconstruction has brought this thought before the public, says that he does not favor government control of the coal or any other industry. He has not pretended to say what should have been done by the coal men in the emergency of last summer; we commend to him the brand of courage of Colonel Wentz and the other officers and members of the coal association who dared their membership with a temporary form of control of distribution, much to the dislike of those members, in order that a more permanent form of federal control might be avoided.

The coal industry needs control, but it should first be given credit for the brand of self-control that has been exercised through its several national associations. The tales of graft in coal that now fill the daily press are in most every instance traceable to the practice of assigned cars, against which the best men of the industry have been and are unalterably opposed. It would seem

that every opportunity opened this year for graft, dishonest speculation and extortion has been seized upon and many have entered the coal business this year through the attraction of easy money. It cannot be charged that a constructive policy on distribution is at fault because of these.

### *Which Way Is the Wind Blowing?*

COMMENTING on domestic prices the monthly review of the Federal Reserve Board for the New York District says that the general drop in prices has proceeded with increased momentum and only a relatively small number of commodities has remained unaffected. Reports from various markets in all sections give unmistakable evidence that readjustment is in progress.

"Many of the basic raw products, such as hides, leather, rubber, cereals, sugar, cotton and potatoes," the Reserve Board's review states, "have declined rather abruptly, and certain manufactured articles, notably textiles, automobiles and a number of other products have had substantial declines also. The non-ferrous metals such as copper, lead and tin show substantial declines."

The important question to the coal trade is whether, as in the United States, the demand for coal abroad will decline and in consequence our export market be curtailed. The answer will be found in the size of Europe's stockpile. If stocks are sufficiently near normal to satisfy the needs of the consumer he will cease buying except for current requirements. It should be fully appreciated that the feverish demand for coal, not only here but in all foreign countries, in the last eighteen months has largely been caused by anxiety to replenish stock. A further and more potent factor at this time is the general decline in commodity prices all over the world. This decline of prices abroad will of necessity be accompanied by a slowing up in buying, which in turn will result in a slackening of production of all commodities, which, of course, means a decrease in the consumption of coal. Europe has not been taking our coal at present rates of exchange and high delivered prices except under dire necessity. Any condition that takes off the sharp edge of this necessity will reduce our market.

Excepting only England and the devastated coal fields of France the rate of coal production in Europe has almost if not entirely reached the rate of consumption and the point has actually been reached at which the European buyer can afford to be particular as to the quality of coal he gets and the price he pays.

"The world-wide check in prices which still continues is convincing evidence that price declines are not purely national phenomena," says the Federal Reserve Board.

The board's statement also says that the forward export demand for American products other than coal, wheat and oil recorded a further decline in October, and in many important lines new orders have been reduced: "The fall in prices of many commodities in foreign as well as domestic markets, with the attendant financial strain abroad, has curtailed buying power and everywhere the tendency is toward hand-to-mouth purchasing. Many report that large amounts of goods have been turned back, and the disposition toward cancellations has been more general. Exporters are unusually cautious in accepting orders or making shipments."

The present situation of the market for coal on our

Atlantic seaboard may be briefly stated. As early as the middle of September European buyers were hesitant at taking our coal at \$30 delivered, the approximate general average at which business had been done during the summer, and there were times when as many as ten cargoes of American coal were reported at European ports on demurrage. The prospective British strike and the strike itself served throughout October to hold up the market on this side, despite the fact that both France and Italy, as well as the Northern Peninsula countries, reported stocks sufficient to see them through several weeks without additional British coal. As soon as the news was received in this country that a basis for settlement of the British strike had been reached the backbone of the export market on coal was broken. Nevertheless the demand for current requirements abroad that must be supplied from this country will continue sufficiently strong to lead the coal market in this country, but the pace of last summer cannot be maintained.

### *Till the Next Time*

GREAT BRITAIN breathes more easily because the wage dispute is settled—at least for a while. However, though the coal miners will resume work, the industrial workers will not do so until the manufacturers and steel masters for whom they work can obtain coal. It may be some time before Great Britain speeds up again, for shortage of coal has but added to the deficiency in basic materials on which her industrial life depends. The mine workers laid their axe at the very root of Great Britain's prosperity. The effect of the mine workers' inaction will therefore last long after the strike ends.

The grave consequences to be apprehended were emphasized by the presence of twice the ordinary number of police on the streets of London. There are no miners within a radius of many miles, but there are many men who are idle and cold by reason of the strike. They are disposed to blame the Government and their employers and not the men who by laying down their tools have made their idleness inevitable.

For these strikers the idle men have a lively sympathy, because they cannot believe that increased wages must mean either higher prices or, with the confiscation of excess profits, increased taxes. But the impost of one or the other is inevitable, however obscure and indirect may be the course which causation travels. We may look to see Great Britain entirely out of the export coal trade. The British mines will be like the American railroads—legislated into inefficiency, bound hand and foot and helpless as an overshackled slave.

But we must pause for a moment to admire British ingenuity. In the plan to be outlined is something even we have not yet thought of. When the miners take holidays and refuse to work, the British mine owner is to be penalized for the inadequacy of his tonnage and is to lose part of his 10 per cent share of surplus profits. The mine workers evidently thought it only fair that if they were to be penalized for non-production, it was only right that the operators should pay a penalty also, so they had this provision inserted. But everybody knows the repeated absenteeism of the mine worker from his working place is the cause of the falling off in output, so laying the burden equally on the mine operator and the mine worker is an impartial punishment of the just and the unjust for the offences of the latter.



### Mexican Government May Take Over Sabinas Coal Mines

It is reported that the Mexican government is about to take over the mines in the Sabinas coal basin in order to relieve the existing coal shortage, pending agreement between miners and owners. Meantime Mexican railroads are buying coal in the United States wherever possible.

### Shipping Board Orders 24 Small Ships Retired

Orders to withdraw twenty-four Lake-type steel steamers, aggregating approximately 84,000 deadweight tons, from service were issued Nov. 3 by the Shipping Board. The vessels are to be tied up at Norfolk, Va., under caretakers. The general shipping situation makes it difficult for the smaller craft such as these to find cargoes because of the slump in ocean freight rates, officials explained.

### Alabama Grand Jury Indicts Retail Coal Men

Eleven retail coal dealers and two mine operators were indicted by the Federal Grand Jury at Birmingham, Ala., Oct. 30 on charges of violating the Lever Act. The indictments followed protests from any sections of the state against present prices of coal.

### Commerce Commission Upholds New York Demurrage Rates

Existing regulations on New York railroads for demurrage charges in transferring freight received for export upon domestic bills of lading between the rail terminals and ships in port were found just and reasonable Nov. 1 by the Interstate Commerce Commission. The commission upheld the provision in the regulations which provides that delivery of the property when covered by domestic bills of lading only will be made upon the payment or satisfactory guarantee of demurrage charges.

### Would Impeach Alabama Governor

The Alabama Federation of Labor, in convention at Birmingham on Oct. 30, adopted by unanimous vote a resolution demanding the impeachment of Governor Kilby for sending state troops into the coal strike district.

### M. J. Gillen, of Wisconsin, Declines Shipping Board Post

Martin J. Gillen, of Wisconsin, has telegraphed President Wilson declining to serve on the new Shipping Board. Mr. Gillen is the third of the seven men selected by the President to decline appointment. The others are Theodore Marburg, of Baltimore, and Gavin McNab, of

San Francisco. The only one of seven known to have accepted appointment is Joseph N. Teal, of Portland, Ore.

### Herbert N. Shenton Retires from Council of National Defense.

Herbert N. Shenton retired Oct. 31 as director of the Council of National Defense to resume his duties at Columbia University. E. K. Ellsworth was made acting director.

### Government-Controlled Railways Of Canada Largest in World

With the merging of the Canadian National and Grand Trunk lines, the Canadian Government now owns the largest railroad system in the world. Government lines control 22,000 miles, employ 70,000

## NEWS BRIEFS

### Terse Items Chronicling Events of Interest to the Industry

persons, operate 2,000 modern locomotives, 1,800 passenger cars and 70,000 freight cars with a carrying capacity of 600,000 tons.

### Mine Explosion in China Kills 422 Men

An explosion and fire Oct. 14 in the Tong-Shan coal mine, in Chi-Li Province, killed 422 Chinese laborers. There were 119 survivors. The explosion occurred in next to the lowest level, smoke causing most of the deaths. Railway shops and a large cement works near the mine lent their employees for rescue work. It had been known that there was firedamp in the mine and extra precautions had been taken to safeguard the miners against it. It is believed the explosion was caused by laborers tampering with the safety lamps.

### Movement of Coal Through "Soo" Canals

Bituminous coal moved westbound through the "Soo" Canals during October, according to the report of the Bureau of Foreign and Domestic Commerce, amounted to 2,493,907 net tons; anthracite, 376,388 net tons. During the month of September, 1920, 2,040,774 net tons of soft coal and 177,123 net tons of hard coal passed westward through the canals.

### Private Rail Control Costs U. S. \$656,000,000 in Half Year

Private operation of the railroads for the first six months after the end of Federal control will cost the Federal government \$656,000,000, according to figures made public Nov. 3 by the Interstate Commerce Commission. The railroads sustained a net deficit of \$206,000,000 during the six months' period, and, besides this sum the Treasury must pay them \$450,000,000, the amount of the guaranty provided in the Transportation Act. Part of the deficit is charged to increased wages.

### Germany May Conscript Workers

A scheme for industrial conscription for both men and women on the Bulgarian model has been worked out fully by the German government. It is mainly the work of Professor Schuecking. Compulsory work for one year is advocated as a substitute for former army service, with a view to increasing the sense of discipline among the masses. This proposal meets with great opposition from the Socialist and Democratic elements in the country, while the Conservatives naturally are in favor of it.

### Labor More Plentiful Now

A dispatch from Cleveland to the Philadelphia *Public Ledger* Nov. 3 states that industrial conditions have so changed with recent events that the surplus of labor is greater now than at any time this year.

### Anthracite Operators Agree to Reduce Prices

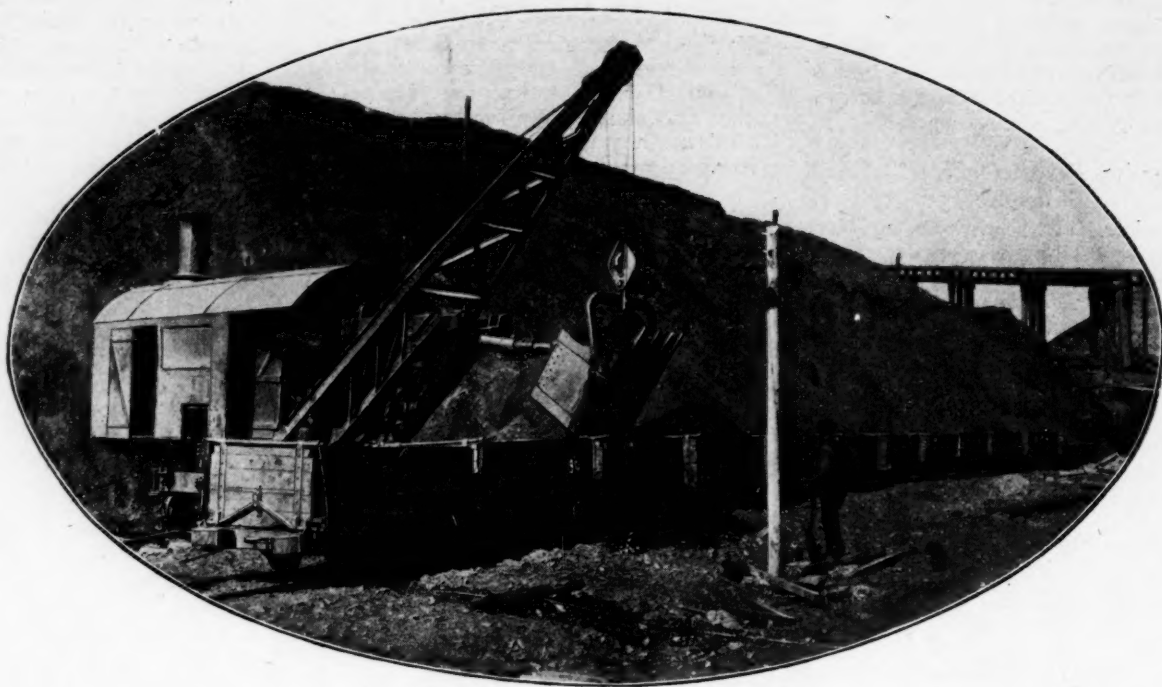
Anthracite coal operators pledged themselves in Philadelphia, Oct. 30, to co-operate with the Department of Justice in attempting to reduce "excessive prices of coal to the consumer."

### Seventy-six Per Cent of World's Ships Are Coal Burners

According to Lloyd's Register, of the world's ships 16.3 per cent are oil burners, 76 per cent are coal burners, 1.7 per cent have internal combustion engines and 6 per cent use sail.

### 10,212 Ships Passed Through Panama Canal in Six Years

Commercial vessels which had traversed the Panama Canal since its opening in 1914 had reached a total of more than ten thousand at the close of the fiscal year ended last June 30. According to the canal record 10,212 ships had passed through. The average monthly number of vessels making the passage has risen steadily, except during a few months in 1915 and 1916, when landslides closed the waterways, until it reached 144.9 ships per month during the first half of the present year.



## Reclaiming Culm with a Steam Shovel

Culm banks have often been referred to as the eyesores of the anthracite region. In the early days it was believed that coal smaller than about present stove size positively could not be induced to burn. Accordingly it was rejected and thrown on the dump together with other mine refuse. Some of these refuse heaps are today highly valuable on account of their coal content that is now marketable.

To reclaim the culm for preparation, various means have been employed. If the bank lies near a wash-

ery, a scraper chain or dragline may be used for this purpose, the culm being hydraulicked to the conveyor. Where it is necessary to transport the material more than a few hundred feet, it is advisable to put it on wheels—that is, haul it in cars.

The illustration shows a small steam shovel loading culm from a bank into mine cars for transportation to the washery or preparation plant. By this means, a few men are enabled to handle a vast amount of material. Consequently the cost per unit treated is comparatively low.





PANORAMIC VIEW OF PLANT OF NEW FIELD BY-PRODUCTS COAL CO.

In the center will be noted the hoist house, which accommodates the two hoists and the electric equipment. It lies midway between the coal shaft and the shaft which handles men and materials. On the extreme right is a building which contains the machine, carpenter and blacksmith shops and the supply room. Along the part of the structure in which supplies are kept is a platform for the receipt of materials by rail. On the left the town can be seen amid the trees.

## New Field By-Products Coal Co.'s Plant One Of Largest in Pittsburgh Region

Compactness Sought in Laying Out Plant—Both Hoists and Electric Apparatus in One Building, Shop and Storehouse in Another, General Offices, Hospital, Lamproom and Washroom in a Third—Fan is Normally Steam-Driven but Electric Drive Is Provided

BY D. J. BAKER  
Wilkesburg, Pa.

THE plant of the New Field By-Products Coal Co. is located at Campbell Station, near North Bessemer, Pa. It is typical of the newer operations in the Pittsburgh district. The company, which is a subsidiary of the M. A. Hanna Co., is developing a 6,000-acre tract of the "thick" Freeport coal in northern Allegheny County. The coal at this time averages 84 in. in thickness, the bed being divided by a band of bone coal of varying width.

Several hundred feet below this bed is another which at some future time may possibly command the same attention that is now being given to the overlying seam. Years ago the Pittsburgh bed was worked on many sections of the property now leased by the New Field Company. At that time little thought was given to the measures which were below it. The Pittsburgh bed was under rather shallow cover and easily mined through drift openings.

Just as the "thick" Freeport is being mined now that the Pittsburgh bed on this property is gone, so we may expect thinner, deeper and less desirable measures to be worked in their turn when the Freeport is exhausted. The thick Freeport coal, however, is well and favorably known for quality and might well have been worked concurrently with the Pittsburgh had it not labored under the disadvantage that it could not be reached without sinking a shaft 300 ft. deep.

### BUILDINGS SOLIDLY BUILT AND FIREPROOF

The operation near North Bessemer dates its initial period of construction back to February of 1917. In this respect it is similar to many of the new operations

of the district which had their inception immediately prior to, or during, the early months of the recent war. The interesting features of the plant lie chiefly in the design of the surface buildings and their layout, for, in the main, no new methods of mining or of preparing the coal were attempted when the plant was built.

Solidity has been sought in the building of the various surface units, which, with the exception of the tippie, have all been constructed of brick and roofed with reinforced concrete block. Such a type of construction gives the plant a pleasing and neat appearance. The grounds around mine buildings may be kept clean and free from rubbish and worn-out equipment, and even grass may be induced to grow there; but something will be still lacking if the structures themselves are rough and unattractive.

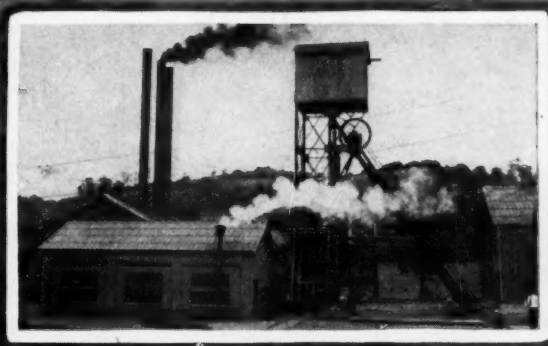
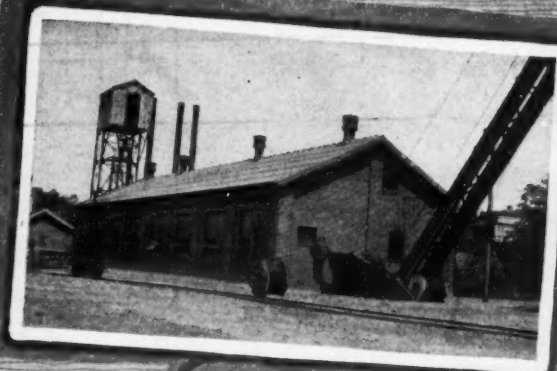
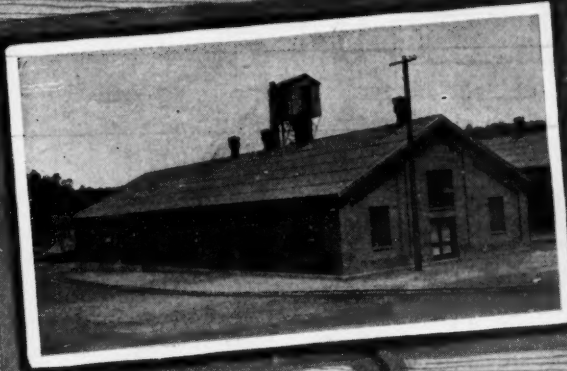
### BOTH HOISTS ARE HOUSED UNDER ONE ROOF

At most bituminous mines separate buildings house the hoist for coal and the hoist for men and materials. Where there is much hazard from fire the arrangement still has its advantages, but at this operation both hoists are under one roof, which also houses the electrical generating equipment. The building measures 60 x 150 ft. The hoisting engines have been installed at opposite ends of the structure as the building has been so placed as to lie nearly equidistant between the two shafts.

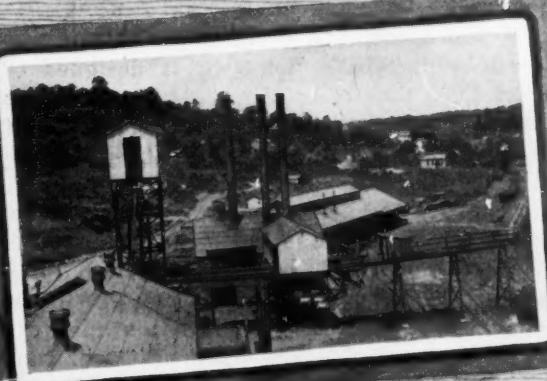
This building is not divided into separate rooms. It is thus possible for the engine operators to see each other. The engineer in charge of the men-and-material hoist is naturally not kept as fully engaged with his





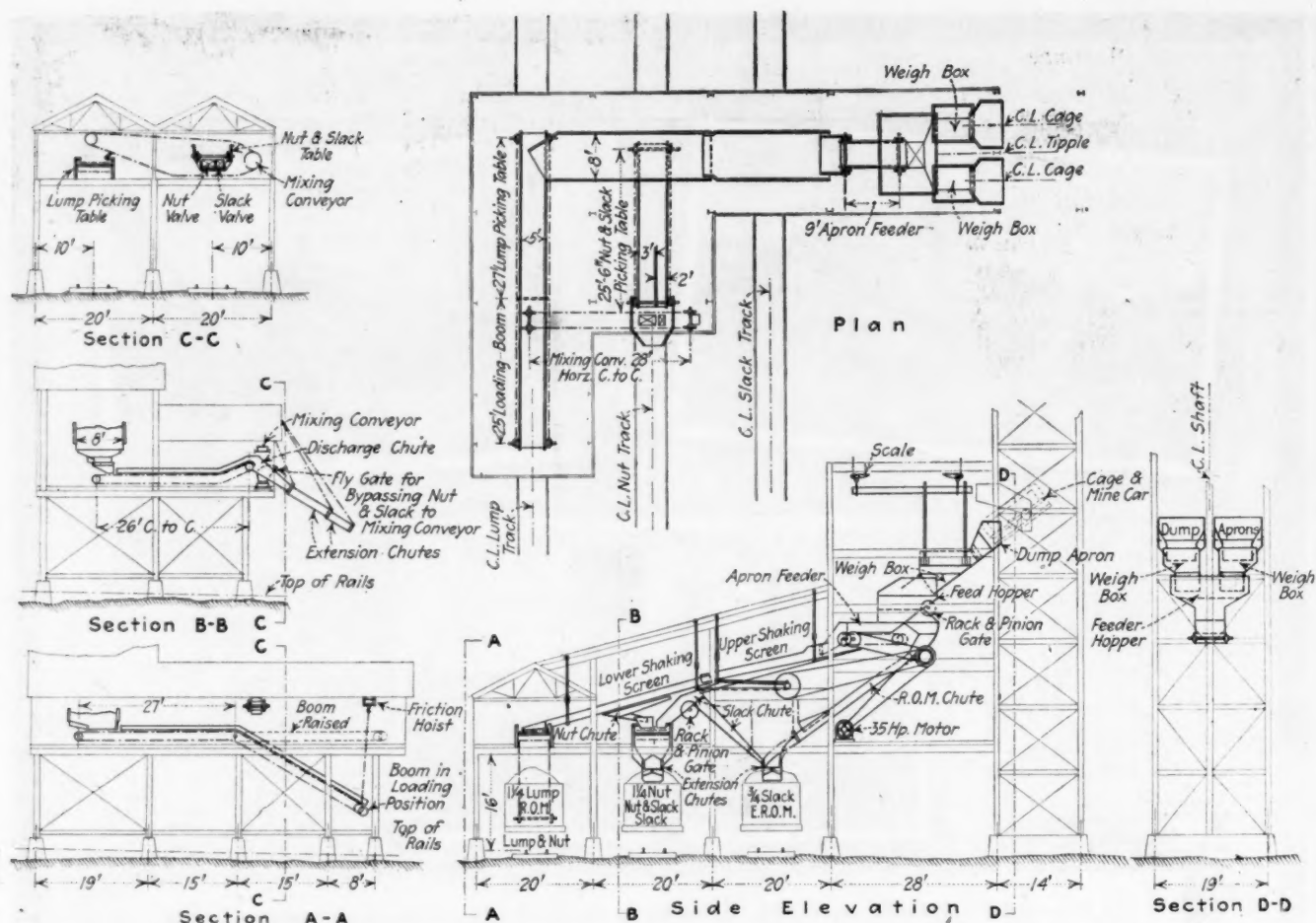


On the upper left-hand corner of the page is depicted the combination building which houses the general offices, the washroom, the lamproom and the hospital. On the upper right-hand corner may be seen the combination hoist house and power-plant building. The man who runs the men-and-material hoist can also take care of the electrical machinery. One of the headframes and part of the backstay of the other can be seen in the illustration. In the upper center of the page may be seen the boiler house, fan house and the headframe of the men-and-material shaft, the hoist of which is driven by steam. The 8 x 14 ft. reversible fan also is so driven, but an electric drive is provided, so that continuity of operation is assured. On the left at the foot of the page is a side view of the slate larry, whereby the ground around the plant has been completely leveled for an area of several acres. The larry is electrically driven and has a dump which can be completely revolved. In the lower right-hand corner is a view of the plant from the tippie. The shaft shown is used for the passage of men and materials. The high trestle in the foreground permits cars of coal to be dumped in the boiler-house bin and cars of slate to be taken to a waste dump.



300-kw. and a 200-kw. motor generator set, complete with switchboard equipment. The New Field company purchases all its electrical power from the Duquesne Light Co., of Pittsburgh. This is delivered to the plant on a high-tension line carrying 22,000 volts. The current enters a transformer station, situated outside the

hoist house, where it is reduced to 2,200 volts through a bank of three 300-kva. transformers. A small 30-kva. machine takes one line from the large transformers and reduces the current still further to 440 volts, making it available to operate numerous small motors in shops and other plant buildings.



PLAN AND ELEVATION OF TIPPLE, SHOWING PICKING TABLES AND LOADING BOOM

The cage dumps the coal at a point about 60 ft. above the ground onto a dump-plate, from which it passes to a 5-ton weigh basket. A 9-ft. apron feeder carries the coal to the screens, which divide the coal into 1 1/4-in. lump and 3/4-in. nut and slack; but provision is made so that the sizes can be mixed after preparation, if so desired.

A wing of the building, shown to the right of Fig. 10, has a fireproof interior and contains the oil switches. These are placed in a 10 x 12-ft. room. From the switchboard 1,500,000-cir.mil. armored cables lead the current to the interior of the mine through boreholes that connect with a small substation located near the main shaft bottom. Direct current only is used within the mine.

The tippie, which with the equipment within it was manufactured by the Link Belt Co., is designed to size and load 4,000 tons of coal in eight hours. It is of steel construction covered with corrugated sheet iron. The mine is served by the Plum Creek Branch of the Allegheny Division of the Pennsylvania R.R. Storage yards above and below the tippie will accommodate 75 empty cars and a like number of loads. Because of the irregularity of the car supply ever since the surface plant was completed, the tippie has never been tested to its full capacity. When this mine can be assured of a regular supply of cars, it will rank among the biggest producers in the Pittsburgh district.

#### TIPPLE CAN LOAD LUMP, NUT AND RUN OF MINE

The self-dumping cages discharge the contents of the mine cars on to a dump-plate from which the coal passes into a 5-ton weigh basket. After weighing, the coal passes to a short apron-feeder conveyor leading to the screens. Only two screens are utilized in sizing the mine product, the outgo being a 1 1/4-in. lump or a 3/4-in. nut. These screens are of the slotted type and are

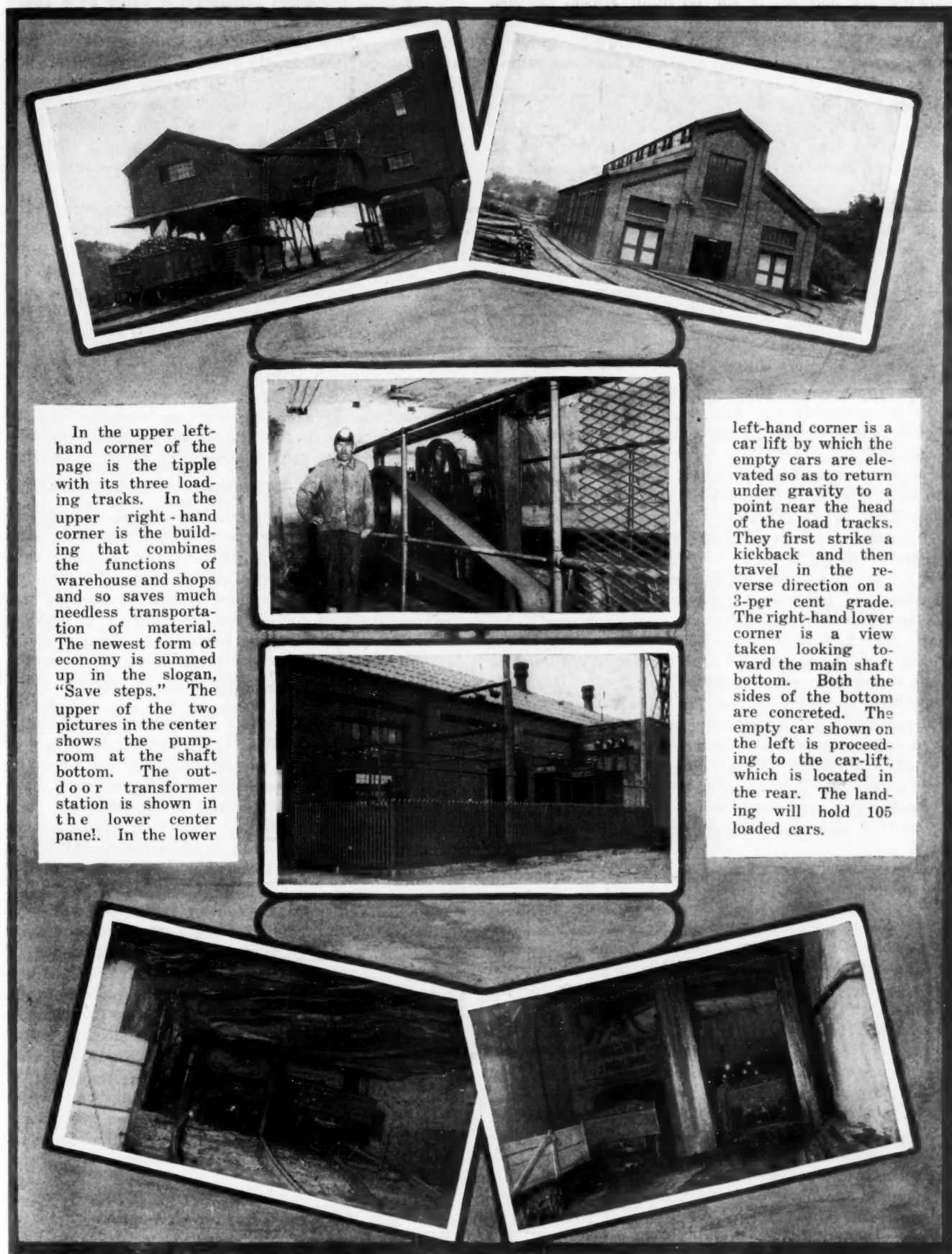
balanced. Three tracks are provided beneath the structure. Thus 1 1/4-in. lump, run-of-mine or lump and nut may be loaded on one track; 3/4-in. nut, nut and slack, or slack on another, while 3/4-in. screenings and run-of-mine may be loaded into cars on the third track. Should the screens happen to be out of order, it is possible to bypass the coal as it leaves the weigh basket and load nothing but run-of-mine.

A loading boom permits the larger size to be lowered into the car with a minimum of degradation. Coal is loaded on the other two tracks from extension chutes, which while not affording the coal the same freedom from breakage as is secured by the loading-boom method, is, nevertheless, able to deposit the product in the car without excessive degradation. A 35-hp. motor furnishes ample power to operate both the apron feeder and to oscillate the screens by means of eccentrics. The connection between motor and eccentric flywheel is made by belt.

Both lump and nut sizes are picked. The lump table, which is a section of the loading boom, is 5 ft. wide and 27 ft. long, while the nut table is of the same width and practically the same length. Between the nut and lump tables a mixing conveyor has been installed, thus rendering it possible to transport the coal from one table to the other, thereby combining the two sizes after cleaning so that picked run-of-mine may be loaded for the market.

The main hoisting shaft measures 12 x 22 ft., and the depth of the bottom of the coal is 312 ft. It has





In the upper left-hand corner of the page is the tippie with its three loading tracks. In the upper right-hand corner is the building that combines the functions of warehouse and shops and so saves much needless transportation of material. The newest form of economy is summed up in the slogan, "Save steps." The upper of the two pictures in the center shows the pump-room at the shaft bottom. The outdoor transformer station is shown in the lower center panel. In the lower

left-hand corner is a car lift by which the empty cars are elevated so as to return under gravity to a point near the head of the load tracks. They first strike a kickback and then travel in the reverse direction on a 3-per cent grade. The right-hand lower corner is a view taken looking toward the main shaft bottom. Both the sides of the bottom are concreted. The empty car shown on the left is proceeding to the car-lift, which is located in the rear. The landing will hold 105 loaded cars.

two compartments, and is walled with concrete throughout its entire depth. The cages were supplied by the Connellsville Manufacturing and Mine Supply Co. A 4-ton car is used in the mines. Steadily operators are turning to the larger-capacity car as a solution of the many difficulties besetting transportation.

The cars in use at this operation were manufactured by the Fulton-Kenova Mine Car Co. and are characterized by a short wheel base, a single-link hitching and a short-radius bumper. With this type of construction the cars when made up into trips can readily traverse short curves. The long-radius bumper and multi-link

coupling are doomed, if for no other reason because cars of this construction clutter the haulageways with fallen coal. In starting a trip, the bump-bump-bump that precedes the setting into motion of each car results in the jarring of many loose lumps of coal from the car tops.

The man-and-material shaft has the same dimensions and general type of construction as the main shaft. It has been sunk the same distance to the coal and likewise has two compartments. The fan house, which adjoins it, is of the same type of construction as the other plant units. It contains an 8 x 14-ft. reversible Jeffrey fan capable of delivering 350,000 cu.ft. of air per minute. This machine is equipped with two drives,—a 400-hp. Erie Ball engine on one side and a 300-hp. Westinghouse, 2,200-volt alternating-current motor on the other.

#### FAN NORMALLY DRIVEN BY A STEAM ENGINE

The fan is normally operated by the steam engine, as it is contended that this is more economical than electric power so long as the auxiliary power house is situated close by, as at the mine being described. In the desire to purchase electrical power for the entire operation of a plant, the needs of the fan are sometimes overlooked. When this important piece of equipment is only operable through electrical energy, the mine is not as safe as it might be.

It is imperative that the fan be kept in operation at all times. If for financial reasons, the officials do not care to erect a boiler house as an auxiliary power plant, some other type of auxiliary drive must be furnished, or the men in the underground workings will not be given that guarantee of freedom from gas that is their due. Some operators are meeting this situation through the installation of gasoline engines. Others have provided engines operated by natural gas. Either means is good, but scarcely to be compared so far as reliability is concerned, with steam power. The recent disaster at Renton probably never would have occurred if the fan at that place had been equipped with an auxiliary drive.

#### TO USE BONE COAL AND MECHANICAL STOKERS

The boiler house, which is actually the auxiliary power plant, measures 60 x 60 ft. and houses three 150-hp. Erie City boilers. Besides furnishing steam for the operation of the fan and the men-and-material hoist, a line is taken down the material shaft for the operation of a car-lift near the main shaft bottom. The boilers are hand-fired with coal delivered to the floor from a 125-ton bin that is filled from cars brought up the material shaft and transported over the light trestle shown in Fig. 12. This arrangement necessitates the installation of an additional pair of scales.

The trestle leading past the boiler house will eventually be used also for the handling of slate. As will be noticed in the general view, this plant was constructed in a valley. All the refuse from the underground development to date has been used as fill around the surface buildings. In the near future it is quite probable that crushing apparatus will be installed near the boiler house and an attempt made to burn the bony coal with mechanical stokers. Practically all the bony removed from the coal before it is brought to the surface, is now gobbled in the rooms in which it has been extracted. This does not appear to be an economical procedure, for the surface plant contains a boiler house

and the bone possesses considerable value as a fuel—especially if mixed with good coal.

Another of the main surface buildings is the combined "shops" and supply house. This is 200 ft. long by 60 ft. wide. Within it is housed the blacksmith, carpenter and machine shops, while one end of the building is separated by a brick partition so as to allow space for two offices and a store room. This section is protected against fire from the other portion by fireproof doors.

In the machine shop are installed a pipe-threading machine, two lathes—either of which is large enough to turn down locomotive wheels—drill presses, a 10-ton traveling crane, and an automatic saw. Two 12 x 12-ft. rooms have been constructed in a corner of the machine shop. One contains an electrical repair shop, while the other houses a toilet with lockers for the accommodation of the workmen.

The blacksmith shop is equipped with two forges as well as two saws and drill presses. All motors that are used for operating the various machines are suspended from the roof of the building, the transmission or power being by belts which are all carefully guarded.

#### FOUR SEPARATE BUILDINGS COMBINED IN ONE

The lamp house, hospital, bath house and general offices are all under one roof in a building measuring 50 x 160 ft. Collecting or grouping together these necessary operating units which at most bituminous plants are separate buildings, is only in keeping with the general air of compactness of design that pervades the entire works. The bath house, or "change room" as it might be called, has accommodations for the clothes of 300 men and is equipped with 24 showers and 6 toilets.

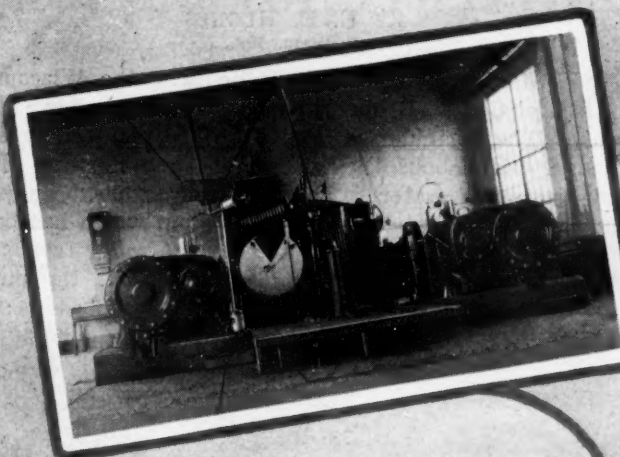
At present there is space for 200 additional clothes hangers. If a miner does not wish to take a bath at the end of the day, he may wash at any one of thirty-six separate spigots provided for that purpose. Water is delivered to the showers and hot spigots at a maximum temperature of 120 deg. F. so that it is impossible for a man to scald himself inadvertently. All of the hot water first passes through a thermostat located in the boiler house.

The hospital contains operating tables, bed and necessary surgical equipment for the performance of major operations. This section of the plant is under the management of a resident physician. No serious accidents have befallen any of the employees to date, but everything is kept in readiness in case an accident should occur. The nearest hospital is located within the city limits of Pittsburgh, nearly twenty miles distant by automobile. The relative remoteness of the city accounts for the care with which the room is equipped. This is one of the few mine hospitals in the western end of the state that is able to handle serious cases.

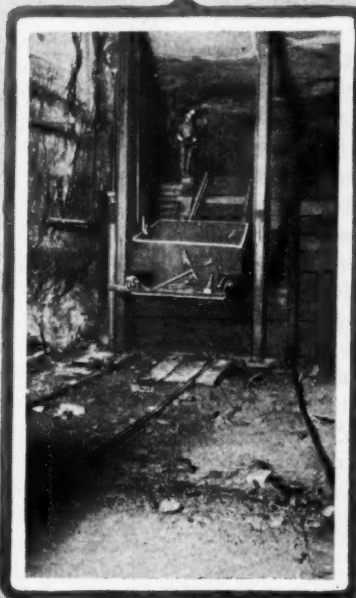
#### ELECTRIC LAMPS AND BREATHING APPARATUS

The lamp room contains standard apparatus for the holding and recharging of 400 Edison cap lamps. Five sets of Gibbs breathing apparatus are kept in this room for mine-rescue work. The firm has among its employees twenty men possessing first-aid certificates and ten qualified in mine-rescue work. Weekly classes are held for the diffusion of first-aid knowledge. By this means the company is assured that a competent corps will be present at the mine at all times.

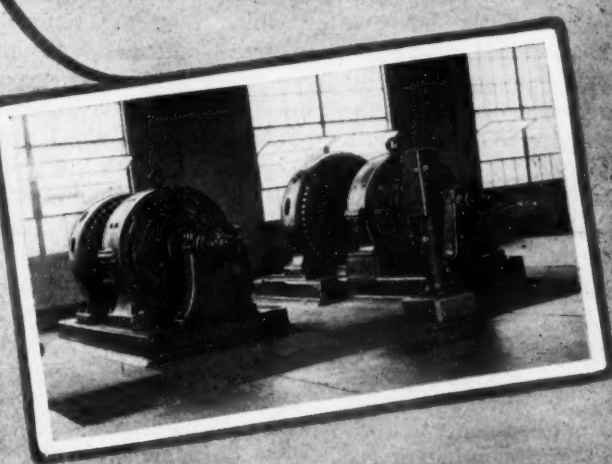
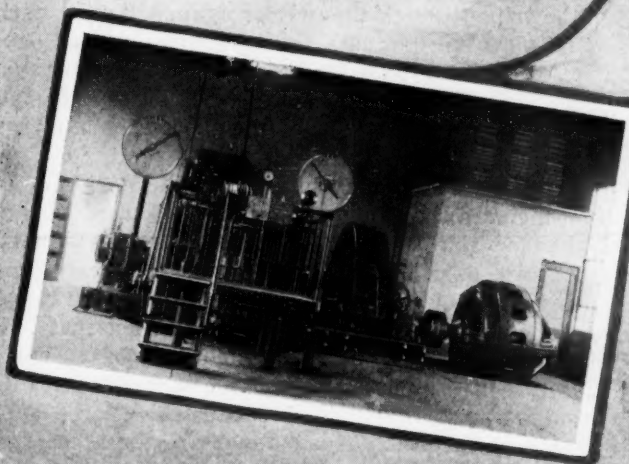




In the upper left-hand corner is the steam hoist for actuating the cages in the men- and - material shaft. It has double 24 x 36-in. cylinders. The upper right-hand corner is occupied by an illustration showing the coal-shaft headframe and the tippie. The latter is built of structural steel and covered with corrugated sheet iron. A shed has been placed over the top of the headframe to protect the sheave during inclement weather. The central illustration shows the car lift in operation. It raises the cars 20 feet. It is operated by steam and works automatically. Most mines in the Pittsburgh district meet this situation with car hauls. In Illi-



nois, however, the car lift has found more general application. This is one of the few operations in western Pennsylvania to prefer this method of elevation. In the lower left-hand corner will be found the coal hoist, which is geared to a 700-hp. motor. Double conical drums are used to shorten the hoisting time and reduce the strain on the cable, which is of 1½-in. diameter. The drums vary in diameter from 6 to 11 ft. In the lower right-hand corner are two motor-generator sets, which are under the same roof as the hoist engines and in plain sight of the hoist operators. The 250-volt direct current used in the mine is generated by this equipment.



At the bottom of the main hoisting shaft 105 loaded cars may be stored. These are caged automatically. As the empties come off the cage they gravitate for 60 ft. to enter a steam-driven Holmes car lift, by which means they are elevated through a vertical distance of 20 ft. At the top of the lift the cars run by gravity to

a kickback, from which point they may be directed either right or left around the shaft bottom. The empty storage yards will accommodate 100 cars. Both run-arounds are on a 3 per cent grade so that the cars run to the head of the load tracks where they are within easy reach of the locomotives.

As can be noticed in the accompanying mine map, five headings have been driven westward, four northward, four eastward, and three southward for the rapid development of the company's acreage. The bottom layout is at present somewhat rudimentary, because much of the development work around the mine in general has been confined to construction and to the installation of surface equipment. In the future excavations will be made for a repair shop and other needed underground rooms. At the present writing, however, there is but a single room at the shaft bottom worthy of description. This is the pumproom, wherein two 8 x 10-in. Dean pumps of the triplex type are installed. Both of these pumps are operated by a single motor connected to them by means of a double belt transmission. The mine sump is at the bottom of the main hoisting shaft. Only one pump is kept in operation, the other being held as a spare.

#### SHAFT WATER WILL BE USED IN THE MINE VILLAGE

When the main hoisting shaft was being sunk, much water came on one side. In order to divert this influx, a 20-in. borehole was drilled 20 ft. from the shaft, and the water was pumped from this point during sinking operations. Upon completion of the shaft, the borehole was piped, and the flow turned into the sump at the bottom. This water, which enters the sump at the rate of 250 gal. per min., has since been tested and has been found to be of such excellent quality, as to render it altogether desirable for town consumption.

Another pumproom with identical equipment to that described will shortly be excavated from which the borehole water will be pumped to the surface. It is planned to erect a 10,000-gal. tank on a hillside near the town and thereby furnish a means of delivering to the town the water which is now wasted. When this is done the inhabitants will have at their disposal better water than is at present available.

#### SHOTFIRERS LOAD AND SHOOT DRILL HOLES

Twelve Jeffrey shortwall mining machines equipped with 7-ft. cutter bars are used to mine the coal. Only permissible explosives are employed in shooting. The miners drill the holes, after which they are tamped with clay and fired by competent shotfirers. Eight 6-ton Goodman gathering locomotives fitted with crab reels and cable gather the loaded cars from the rooms. The bed dips to the southwest on a gradient of  $1\frac{1}{2}$  per cent, and this grade makes it necessary to provide power for the moving of the loaded cars, for their great weight when loaded makes this essential. Thus far the gathering locomotives have also been used in hauling the trips to the shaft bottom. A 15-ton Goodman haulage locomotive has been ordered and will soon be in service.

#### HEAVIER LOCOMOTIVES TO BE UTILIZED

Other heavier machines will be utilized as the development of the mine proceeds. This development will be much hastened now that the surface units have all been completed. Assured of an adequate car supply the New Field By-Products Coal Co. will take its place among the leading producers of western Pennsylvania. H. A. Nelms is superintendent of the mine. With the few exceptions noted in this article, the plant was designed and laid out by the officials of the M. A. Hanna Co.

## Keeping Down Dust by Sprinkling Empties

BY E. E. HUGHES  
Benham, Ky.

BY SPRINKLING empty mine cars, the Wisconsin Steel Co., at Benham, Ky., helps to keep down coal dust. The sprinkler is located on the main entry and near a sump, about 2,000 ft. from the drift mouth. For the supply of water to the sprinkler it has been connected to the discharge pipe of a pump which has been installed for the purpose of forcing the water from this sump to the outside. The man who tends the pump



CAR SPRINKLER IN ACTION

turns the water on the sprinkler whenever an empty trip is passing. The water that misses the cars, falling between them and at the sides, flows back into the sump.

It has been found that the sprinkling of all empties works wonders in keeping dust down. Cars now enter the working places soaking wet and when dry coal is shoveled into them dust does not rise as it would if the coal were shoveled into dry cars having loose dust all over them. This method has another important advantage. Before the cars were sprinkled, the motion of the trips through the entries against the air current would blow the fine dust from the dry cars and deposit it on the floor. When the cars are well wetted, water drips from them as they travel and so keeps the entry moist. At the No. 2 mine of the above company the car sprinkler is located at the tippie.

From the excellent results secured by this method, I am convinced that by installing more of these sprinklers I shall be able to keep the mines moist enough to be free from dust in all working places, except possibly within rooms. It is true that the wet cars cannot sprinkle the top and sides, but all the dust that is kept out of suspension is not deposited on roof or rib, and therefore it will not now be necessary for men to go through the working places to wash down the dust as often as in the past. This method will, therefore, reduce the sprinkling cost as well as keep the mines in much safer condition.

IN AN ANSWER to charges of the *New York Herald* that Government material was deteriorating at Raritan Arsenal the War Department says that the coal which it was asserted was dumped in a hollow and then filled over was placed there for storage, and that it has all been used for fuel.



# Real Factors Determining Export Trade—II

An Answer to J. D. Davis' "Coal Quality—A Factor in Export Trade"—Author Discusses Character of European Coals and What Should Be Done to Make Our Overseas Coal Business Permanent

BY F. R. WADLEIGH  
New York City

CONTINUING the examination of J. D. Davis' article of Sept. 9 I am obliged to take exception to his statement that "the most important European coal regions include the Westphalian areas in Germany, the Welsh fields in Great Britain and the Pas-de-Calais district in France."

Why not include the Northern, Yorkshire and Scotch fields of Great Britain? The Yorkshire field has a larger production than the Welsh, the Northern practically the same and the Scotch not much less; a large export tonnage normally comes from each of them.

In regard to the Belgian and Holland fields the Davis article states that "the beds in both Belgium and Holland are thin and much broken by faults, making mining difficult and expensive." To one who was not familiar with output figures for those countries the above might seem to imply that, owing to the difficulties mentioned, their output of coal was small and not worth mention.

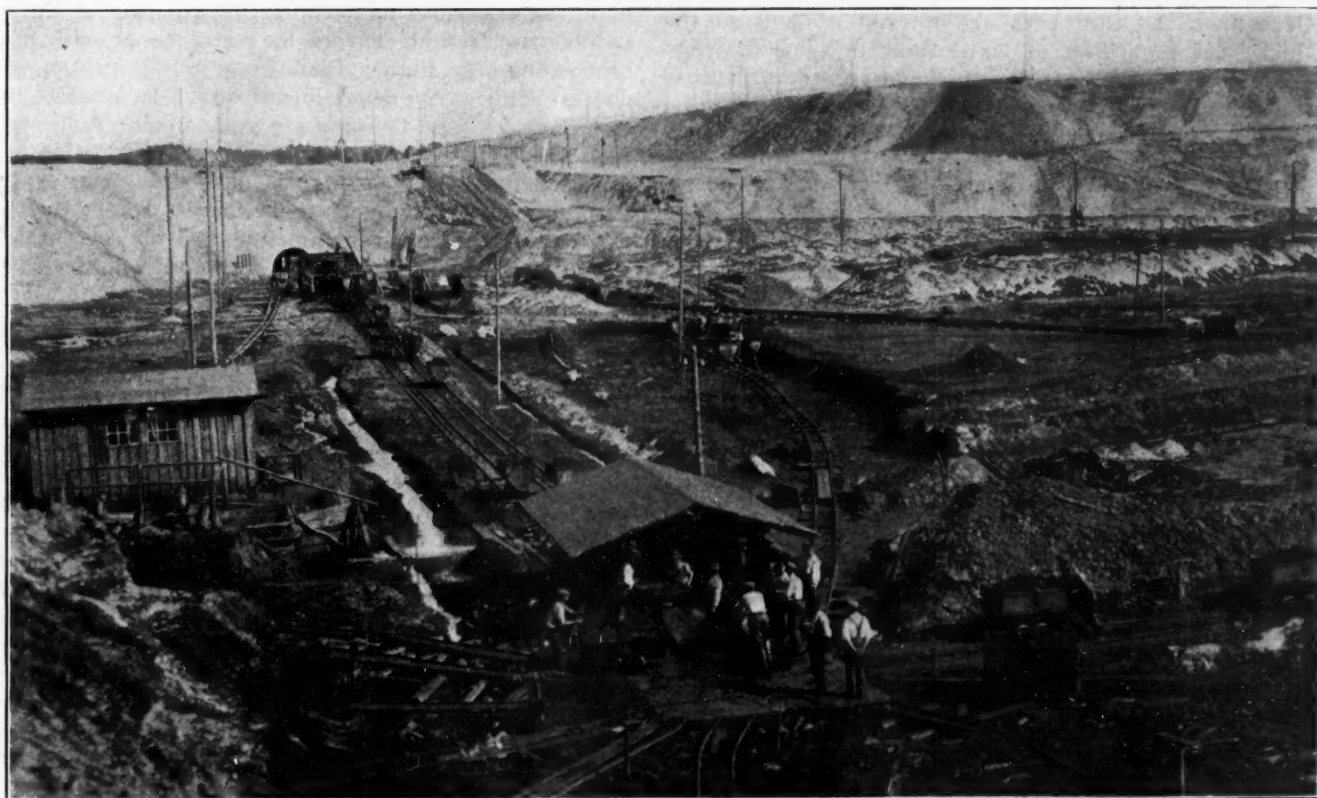
Yet, while coal mining in these countries is attended with the difficulties stated, the amount of output is all the more remarkable, although not quite sufficient, as Mr. Davis states, to fill their own requirements. Belgium in 1913 produced 22,841,590 net tons and in

July was producing at the rate of about 106 per cent of that amount, a remarkable recovery; while Holland in the same year mined 1,986,000 net tons and in 1910 5,356,678 net tons, and, as also stated, they both imported and exported coal.

The Upper Silesian field of Germany also is important for other reasons than those given, namely, coal easily mined and beds thick.

Commenting on Russian coal resources, Mr. Davis says "there is quite a little coal in Russia, but as yet the development of that country's resources has been small." However, inasmuch as the report of the International Geological Congress published in 1913 estimates that the Russian coal fields in Europe alone contain about 60,118,000,000 tons, the statement just quoted does not seem to be quite sufficient. As regards Russia's output, in 1916 she stood fifth among the world's coal-producing countries, her output in that year having been 34,630,000 long tons.

"The following," Mr. Davis states, "may be given as fairly representative of the quality of the best coals of the fields referred to above," and then he gives a table which I will term Table I.



VIEW OF A STRIP-PIT IN THE LOWER LAUSITZ DISTRICT

Perhaps it is unfair to note that at the foot of the rope haul there are at least a dozen men who appear to be greatly in one another's way. There are also two men pushing a car to the dump. This was typical of German operations before the war and it would seem that Germany has not given up its prodigious use of labor. However, this may be only a temporary concentration of men normally widely scattered on the ten converging tracks.

TABLE I—REPRESENTATIVE ANALYSES AND HEATING VALUES OF EUROPEAN COALS (DAVIS)

District or Region	Moisture, Per Cent	Ash, Per Cent	Volatile Matter, Per Cent	Heating Value, B.t.u.
Saar fat coals	1.7	5.1	36.9	13,850
Ruhr steam coals	4.2	6.0	17.2	13,500
English Cardiff	1.0	7.0	15.0	14,050
French coals (steam)	5.4	11.5	26.9	12,140

I consider that the data given in this table are not accurate and greatly understate the quality of the best coals from the fields mentioned. Table II therefore is submitted as being more near the truth, all the data it gives having been taken from a number of unbiased analyses of the coals listed.

TABLE II—REPRESENTATIVE ANALYSES AND HEATING VALUES OF EUROPEAN COALS (WADLEIGH)

District or Region	Moisture Per Cent	Ash Per Cent	Volatile, Per Cent	Heating Value B.t.u.
Saar fat coals	2.4	3.7	34.4	14,000
Ruhr steam coals	0.9	3.6	19.1	14,420
Welsh coals (Cardiff)	1.16	4.23	15.05	14,900
French coals (steam)	1.10	5.00	20.20	14,491

"Coal cost at the mine," according to Mr. Davis, is "lower in this country. Although labor is cheaper in Europe than in America, the cost of coal at the mine is normally less in this country," he continues. A true statement, but not altogether for the reasons given, namely, "deeper workings, faulted beds, gaseous conditions and quicksands; furthermore, there are the legal requirements in Europe that the thin beds as well as the thick ones must be worked."

There are plenty of "faulted beds" in the United States and the European mines have not by any means a monopoly of gaseous conditions, as compared with those in the United States. Likewise quicksands are not by any means a characteristic of European mines. Of course, the thin beds are worked as well as the thick ones regardless of legislation; in some districts because all of the beds are thin and in others because the thick beds are worked out. There is, I think, no uniform legislation in European countries requiring the working of thin beds regardless of modifying conditions.

#### TIMBERING ONE OF EUROPE'S BIG DIFFICULTIES

One of the strongest reasons for the greater cost in the European mines is the much larger amount of timbering done, made necessary by bed and roof conditions or required by mining laws. Another reason is the more extended use of mining machines in the United States as compared with European countries—in 1918 55.9 per cent of the total output was machine mined, as against 12 per cent in Great Britain.

All the differences in mining conditions and methods result in a much greater output of coal per man in this country, which, of course, makes for lower mining costs. For instance, in 1913 and 1918 output figures were as in Table III.

TABLE III—ANNUAL OUTPUT PER PERSON IN FIVE COUNTRIES

Country	Tons per Year per Person			
	1913	1918	1919	1920
United States, bituminous	837	942	....	(6 mos.)
United States, anthracite	520	672	....	....
Great Britain	265	240	197	102.4
France	203	....	....	....
Germany	300	....	....	....
Belgium	157	125	....	....

"The comparative cost of coal (before the war) at the mines in England, Germany and the United States," Mr. Davis states, "may be given as in Table IV."

TABLE IV—COST OF COAL, IN THREE COUNTRIES, BEFORE THE WAR (DAVIS)

	Per Metric Ton
United States	\$1.00 to \$1.50
England	2.00 to 3.00
Germany	1.60 to 2.25

For the United States the range given is not wide enough. In 1913 coal was being mined in more than one important district for 84c. per metric ton or less; in other districts for \$2.25 and even more in some cases. In Great Britain mining costs in 1913 ranged from as low as \$1.49 to \$3.30 per long ton, these figures having been obtained from actual cost statements of mines in Northumberland and South Wales.

The comparative cost at port, f.o.b. ship, of coals of the three countries, according to Mr. Davis, was normally about as in Table V.

TABLE V—COST OF COAL AT PORT (DAVIS)

United States	\$2.85 to \$3.47
England	3.05 to 5.40
Germany	3.00 to 4.80

If by "normally" is meant before the war, in 1913, these figures are not quite accurate. Average f.o.b. costs at tidewater in that year ranged as in Table VI, per gross ton.

TABLE VI—COST AT PORT BEFORE THE WAR (WADLEIGH)

UNITED STATES	
Pocahontas and New River Coals, f.o.b. Hampton Roads,	\$2.70—\$2.85
ENGLAND	
Welsh large	\$5.22
Welsh smalls	2.49
North country, large	3.72
f.o.b. Tyne ports	....
North Country smalls	\$2.43
Scotch, large	3.42
f.o.b. ports	....
Scotch smalls	2.20

"Obviously the United States," Mr. Davis states, "is under an enormous handicap as an exporter to Europe in that the freight charges by water necessarily must be considerably higher than those for European producers owing to the much longer haul. In spite of this disadvantage (and freights are undoubtedly higher now than they will be in normal times) the United States exported to Europe during the last year four or five million tons of bituminous coal, whereas before the war exports to that continent amounted to almost nothing. This was accomplished, too, with war-time prices prevailing in the United States."

#### LOW COST WILL OFFSET FREIGHT HANDICAP

Freight charges by water are, of course, as stated, higher from this country. In 1913 the ocean freight rate on coal from Hampton Roads to Genoa was as low as \$2.88, while the rate from Cardiff to Genoa averaged \$1.70; but the "enormous handicap" was not so great if we consider the great difference in the f.o.b. tidewater cost of coal in favor of the U. S. coals.

Today the going rate from Hampton Roads to Genoa is \$14.50, whereas from Cardiff it is \$4.375 (figured with \$3.50 as value of exchange), but the best Welsh coal is quoted *nominally* at \$21 f.o.b. and best Durham and Northumberland at \$26.25, both very scarce, bringing premiums above quoted price.

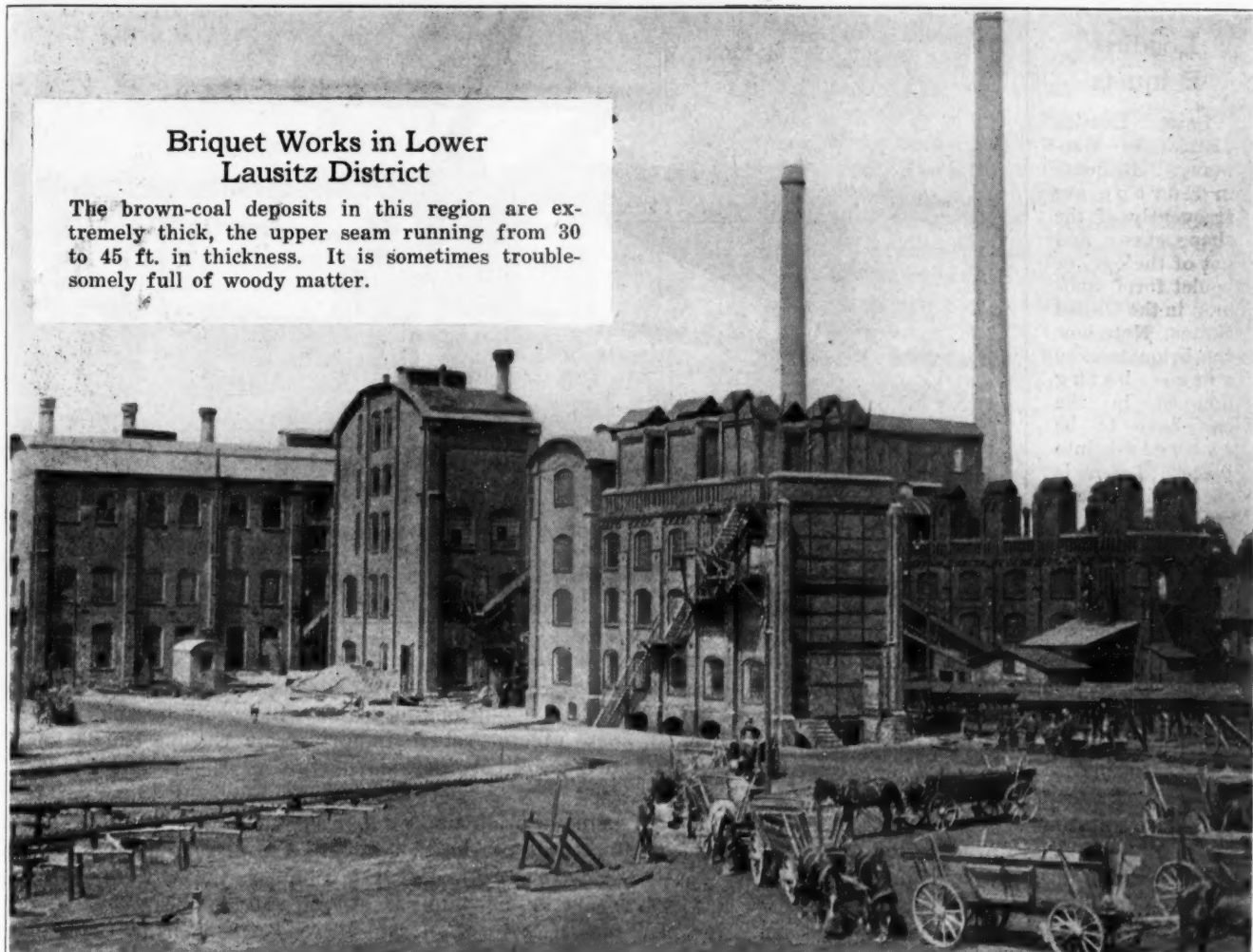
Actual market quotations at Genoa in August were: Welsh second, 635 lire; best Durham gas, 675 lire; U. S. steam coal, 630 lire; U. S. gas coal, 635 lire.

The main reason that we exported as much as we did (4,089,000 tons) to Europe last year was not that comparative costs or freights helped or hindered but that reduction of output and consequent scarcity of coal in



### Briquet Works in Lower Lausitz District

The brown-coal deposits in this region are extremely thick, the upper seam running from 30 to 45 ft. in thickness. It is sometimes troublesome full of woody matter.



the European countries forced them to come to us.

"In the autumn of 1919 English coals were selling at Rotterdam at \$23 per ton," according to Mr. Davis' article, "while American coals were selling simultaneously at \$29.50 per ton. This shows a decided advantage for the English coal, but there is little of this fuel on the market."

In October, 1919, United States coal was being quoted c.i.f. Rotterdam at \$31, while the Welsh steam coals of the best grade cost \$17 per ton, f.o.b. Cardiff, and the ocean freight to Rotterdam was \$10. In that month only one cargo of British coal was loaded for Rotterdam.

#### WHY KEEP COAL AND SHIP COAL-MADE STEEL?

Mr. Davis believes that we should not try to export our coal and that we should conserve our fuel resources "for the upbuilding of our own industries." There is considerable room for argument on this question and his opinion differs from that held by many others well informed on the subject. It might be asked, why manufacturers should be encouraged to export finished goods and coal exports be discouraged when it takes coal to make the manufactured goods that are to be exported.

For instance, in the first five months of 1920 our exports of finished steel products averaged 374,890 gross tons per month, or at the rate of 4,498,680 tons per year. Now, to make this amount of steel would take, at the minimum figure, 8,277,570 gross tons of coal, an amount greater than our total overseas coal exports in any one year. Yet we have heard no complaints of our steel exports having been too large or that they should be curtailed or prohibited.

"We should endeavor to bring our selling standards up to those obtaining in Europe," Mr. Davis says. It would seem, however, that today there are no selling standards in Europe. They want coal and more coal and are not particular about standards, except as to coal being gas or steam or coking coal.

"The purchaser," according to Mr. Davis, "has no assurance that the coal he buys from an American pool is of the quality guaranteed." As a matter of fact, purchase of coal from any of the Tidewater Coal Exchange pools carries with it no guarantee of quality and is not supposed to do so; the only guarantee for which the Tidewater exchanges give certificates is that the coal purchased comes from the specified pool or pools.

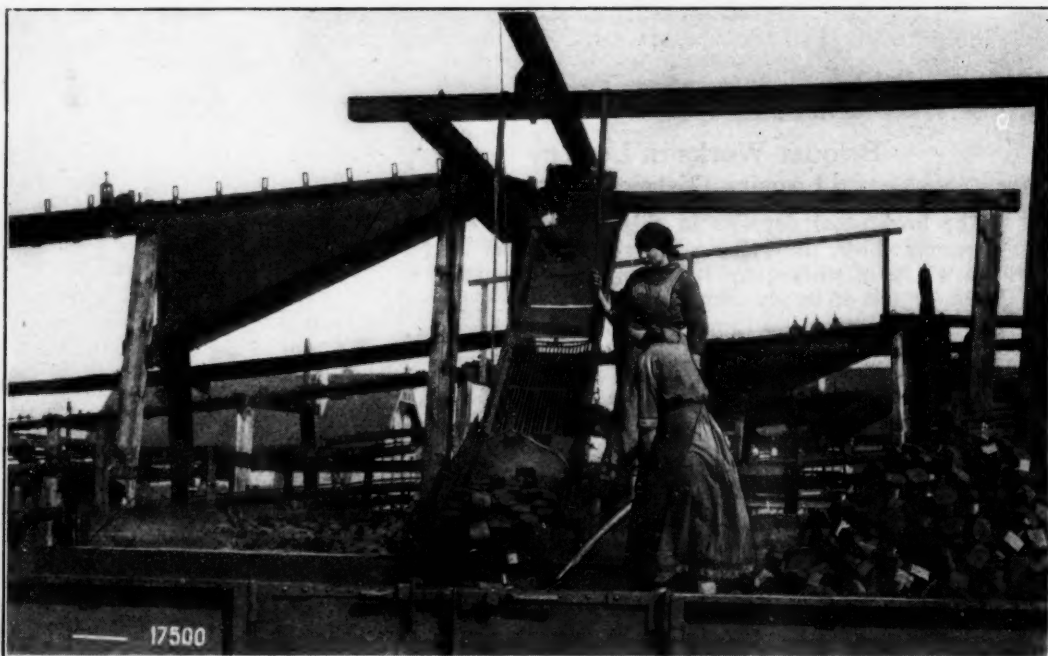
#### SOME AMERICAN COALS HAVE BAD REPUTATION

Preceding the above statement in Mr. Davis' article is the following: "American coals have the reputation abroad of being good fuels and of not being so well prepared as competing European coals." This statement should be qualified to the effect that *some* United States coals have the reputation abroad of being good fuels; others have the reputation of being, and have proved to be, very poor fuels. As regards preparation, there is no question but that competing European coals have been and still are, although not to the same extent as formerly, better prepared than are the United States coals—one reason for their higher cost of production.

Mr. Davis' remarks about Government inspection and analysis are interesting. A beginning has already been made in this direction by the Sewells Point Coal

### Loading Briquets

Lower Lausitz district of Germany. Briquets in Europe are frequently of the shape shown and not of the egg, or boulet form, common in the United States. Note how the briquets even after being dumped in the car have to be shoveled into place. Labor is cheap in Germany and it needs to be, such uneconomical use is made of it.



Exchange, which has made a contract with the Bureau of Mines to reclassify its coals and make systematic analyses. The Government samples should not, however, be taken at the mines, as Mr. Davis says, but at Tidewater, as has been done for some years by the Government for its own purchases of coal for the Panama Canal coaling stations. Sampling at the mines is liable to encounter special preparation, while Tidewater sampling would be free from such liability. All inspection, however, should be at the mines.

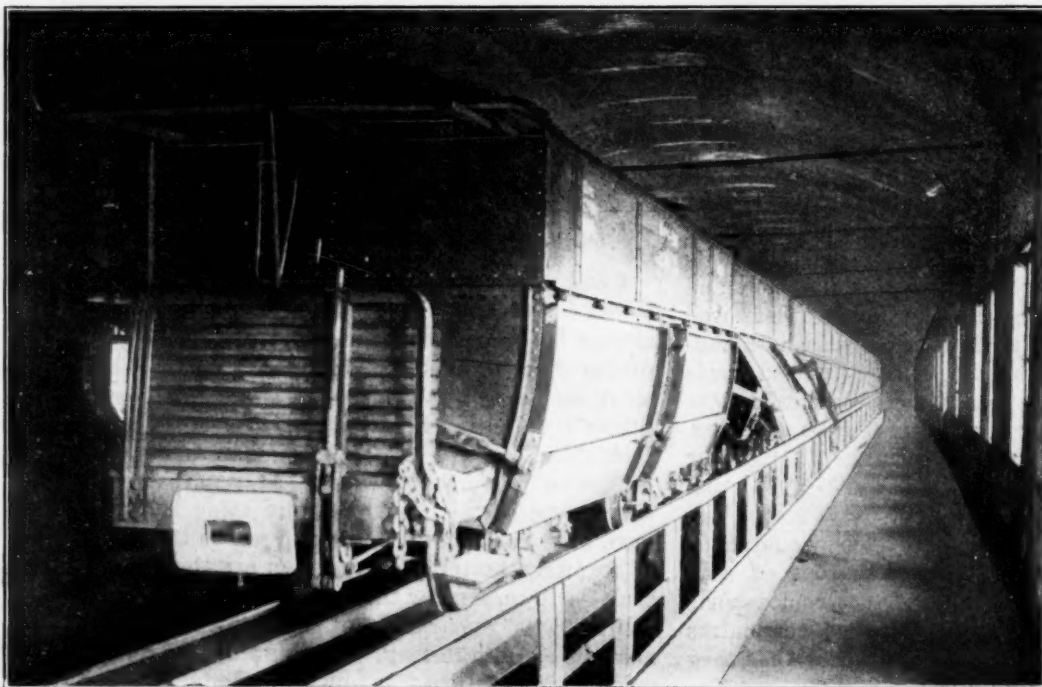
"In order to hold an export coal business with Europe, freight rates must be brought considerably lower than they are now," Mr. Davis warns. This does not go to the bottom of the question. Merely bringing down our freight rates will not answer, because our competitors' freight may also be brought down and undoubtedly will be. Other items must be considered—comparative costs of coal at Tidewater, supply and demand, loading facilities; later on, perhaps, service and quality also

Mr. Davis goes on to say that even with our advantages—somewhat better grades of coal (?), cheaper mining conditions, etc.—we will hardly be able to compete unless "return imports from Europe can be made to bear a considerable portion of the freight charges. Just now imports are not of sufficient importance to bring this about."\*

It is true that a number of ships are coming to our coal ports from Europe in ballast, but our imports are nevertheless running at the rate of \$514,000,000 per month (August), an increase of \$207,000,000 over August, 1919, and the outlook for return cargoes in the future is promising, to say the least.

"Just now all kinds of American goods," asserts Mr. Davis, "find sale in Europe regardless of high cost and high freight rates." This statement is too general

\*In justice to Mr. Davis it must be admitted that his paper was not published till sometime after its writing; meantime Europe has partly recovered from the effects of the war.—EDITOR.



### Brown-Coal Transport Wagons

The material which is in the intermediate state between peat and lignite is loaded into large cars electrically propelled and taken to the top of the factory, where it is dropped into large bins.



and not strictly correct. All kinds of American goods do not find sale in Europe today, as some exporting houses have found out recently to their cost. Our exports showed a decrease in August of \$72,000,000 as compared with July.

"Europe must needs look to America for fuel, even if the price is high," Mr. Davis continues. There are other countries besides America (United States), however, that are today supplying European countries with coal, in spite of high ocean freight rates—Australia, China, South Africa and India are all shipping coal to European countries.

It might have been well, in writing of our export trade in coal, to make some mention of our most logical future export coal market—South America. This market we have today and should keep if we desire to do so and if we will take such steps as are necessary for us to hold it.

#### WHAT WE SHOULD DO TO HOLD EXPORT TRADE

If we decide, as a nation, to permit and foster our export coal trade, it will be necessary to observe the following:

(1) To prepare our coals for the foreign consumer as we would if we were to use them ourselves; a little better, possibly.

- (2) To disseminate accurate and reliable data regarding our coals, their quality, the uses to which they are adapted and the manner in which they can be used to the best advantage.
- (3) To acquire accurate knowledge regarding foreign markets, their needs, customs and usages, as well as of the cost, character and availability of competing coals from other countries.
- (4) To make a closer study of the conditions under which ocean transportation is performed and of their effects on the coal trade.
- (5) To establish satisfactory credit, financial and selling methods.
- (6) To erect better and greater ship loading and handling facilities at Tidewater.
- (7) To co-operate more closely with the railroads that haul coal to Tidewater.
- (8) To place our export coal trade on a more honorable and stable foundation by getting rid of the pernicious mushroom growths, created and fostered by war and post-war conditions.
- (9) To secure a scientific and accurate classification of our export coals, including systematic and current analyses, either by the Bureau of Mines or by a board of chemists employed by the National Coal Association.

## At a Word Sprays Thoroughly Drench Every Square Foot in Anthracite Breakers

An Old-Style Breaker Is a Torch of Oily Pine—Sprays Are Used to Drench Not Only the Area on Fire but the Whole Building—Pipes Have To Be Kept Empty, as Water Is Corroding, but Either the Pump Runs Incessantly or the Water Tanks Are Kept Full

BY DEVER C. ASHMEAD  
Wilkes-Barre, Pa.

**A**NTHRACITE coal breakers are extremely inflammable, particularly those of the older type, which are constructed entirely of wood. As these buildings are filled with machinery, they soon become thoroughly soaked with oil, which makes the pine of which they are constructed as ready to burn as a match. The slightest fire will start them going and if they are once started it is practically impossible to save them. Consequently, it is necessary to provide adequate fire protection.

An ordinary stream of water has practically no effect on a fire in one of these breakers. As a result the only adequate protection lies in providing some system that will thoroughly drench the inside of the building. Even this is not always a sufficient protection, for breakers burn down even when thus equipped.

#### A BURNED BREAKER MEANS A CLOSED MINE

The breaker is the heart of any colliery. If it is destroyed the mine must close until such time as a new building can be constructed or until arrangements can be made whereby the coal may be sent to some other mine for preparation. The burning of a breaker means the loss of a large investment, for such a building

costs anywhere from \$10,000 to \$1,000,000 and its destruction may throw from a few hundred to a thousand or more men out of work. Thus it can be seen that everything possible must be done to protect it from loss by fire.

In this article the means for fire protection employed by two of the largest anthracite coal-mining companies will be described. The methods used by these two firms will be found to be nearly the same as are employed at all breakers in the anthracite region.

#### PUMP KEPT SLOWLY RUNNING AT ALL TIMES

The newer breakers of the Lehigh Valley Coal Co., being built of steel, need no protection against fire, as there is nothing to burn except the lining of the coal pockets and the sides of the shaker screens, but in structures of the older type, conditions are different, as they contain little but what will burn, and consequently everything has to be carefully protected. Wooden breakers of this company are provided with a system of pipes that run through the building and have spray nozzles at regular intervals. These nozzles are so placed that they will completely wet down every portion of the breaker.

From a reservoir an 8- or 10-in. pipe is run to the fire pump, which is located near but not in the breaker. Usually this pump is placed at a safe distance, so that if the building should catch fire there would be no danger of the pumproom burning. This pump is kept continually running, though under normal conditions it discharges only a small stream of water. In case of fire the pump is speeded up and the main valve opened so that the water will be forced through the main pipe line to the breaker, the small discharge pipe being, of course, closed. Continuous running of this pump assures the engineer that it is in good condition and also saves the time necessary to start it if fire should occur.

### PRESSURE NEEDED TO REACH UPPER PARTS

The main pipe from the pump extends to the top of the breaker and at some of the mines runs above it. This insures a sufficient pressure of the water to spray the upper portion of the building. Fig. 1 shows an isometric projection of the pipe system as used in a breaker of the Lehigh Valley Coal Co. The small circles represent spray heads. At least once every month the spray system is tested thoroughly, and if after such a trial a dry spot is found in the breaker another spray nozzle is added, so placed that it will thoroughly wet this point. The idea is to drench every part of the building. A fire in a breaker spreads with great rapidity and consequently no time can be lost in fighting it.

In addition to the protection afforded by the spray system, fire hydrants are placed at convenient points

wet preparation and is shut down for any length of time, it dries out thoroughly and as a result, the timbers are likely to rot rapidly, seriously decreasing the strength of the building. By employing such a system for fire protection it is possible during periods of shutdown to turn on the water, say once a week, and thoroughly drench the timbers. This serves as a protection against rot.

The Lehigh Valley Coal Co. has a special committee the duty of which is to see that the fire-fighting system is in working order and to test it from time to time, for no system is worth anything unless it is in working order. This committee is composed of various officials of the company.

Care is taken not only on the surface but also underground to prevent fire and to fight it. At each of the mines 2,000 ft. of 2-in. pipe is kept ready to connect to the mine pumps, also hose and nozzles. This pipe is to be used in case there should be a fire in the mine itself.

## SIZE OF TANKS DEPENDS ON SIZE OF BREAKER

At the mines of the Philadelphia & Reading Coal & Iron Co. a system of breaker protection similar to that at the Lehigh Valley mines is used, but this company has an advantage over the Lehigh Valley in that it is not put to the necessity of providing fire pumps to force the water into the standpipes, as the water may be made to flow directly from large tanks into the fire lines. The size of the tanks and their number depend on the size of the breaker to be protected. Fortunately, topographical conditions make it possible to place these tanks on the hillsides above the breakers,

FIG. 1.

### Isometric Projection of Pipe System at Breaker of Lehigh Valley Coal Co.

Small circles show spray heads which are so disposed as to completely flood the breaker with water, not only putting out the fire but drowning the entire breaker. As there is nothing to be spoiled, there is no stint in applying the water; in fact it is used to wet the breaker when that building is not in use and to remove the dust when the breaker has been in operation. Where automatic sprinklers are used which are set in operation by the fire itself, they drench only the area which includes and surrounds the fire. This limited action is necessary where valuable materials are stored or expensive fixtures are installed, but in the breaker no advantage, but only a possible loss, would result from a discrimination that has value only where water is an evil only a little less to be feared than fire.

around the whole plant. These hydrants are equipped with hose and nozzles, and they can be used as auxiliaries to the spray system either in fighting the fire itself or in protecting other buildings.

## SPRAYS WASH BREAKER AND LESSEN ROT

Testing out the fire system serves three purposes. In the first place, it shows whether the system is effective and in working order. Second, it cleans out the breaker by washing. This is advantageous as large accumulations of coal dust are formed in the preparation of the coal. Third, in case the breaker employs a

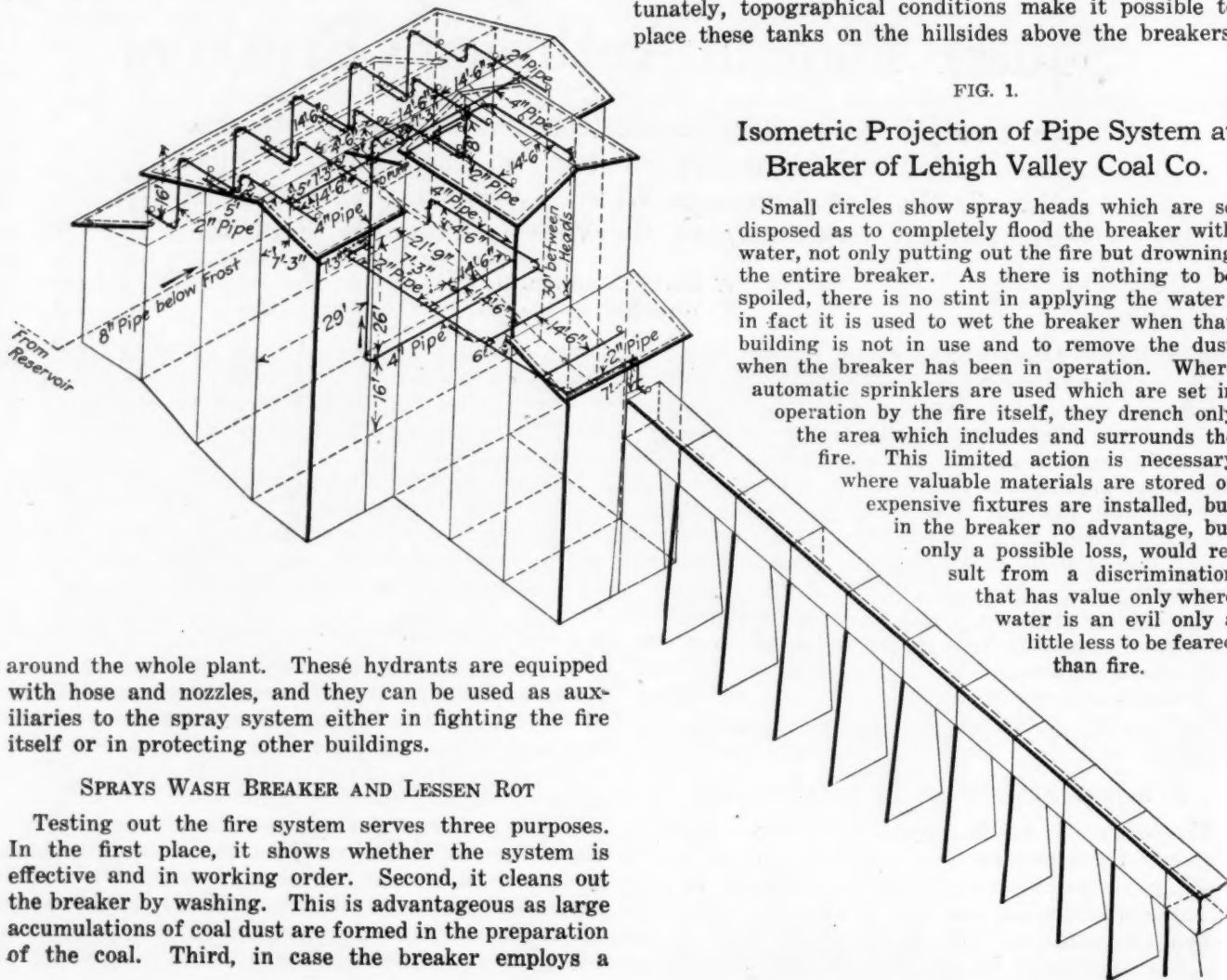
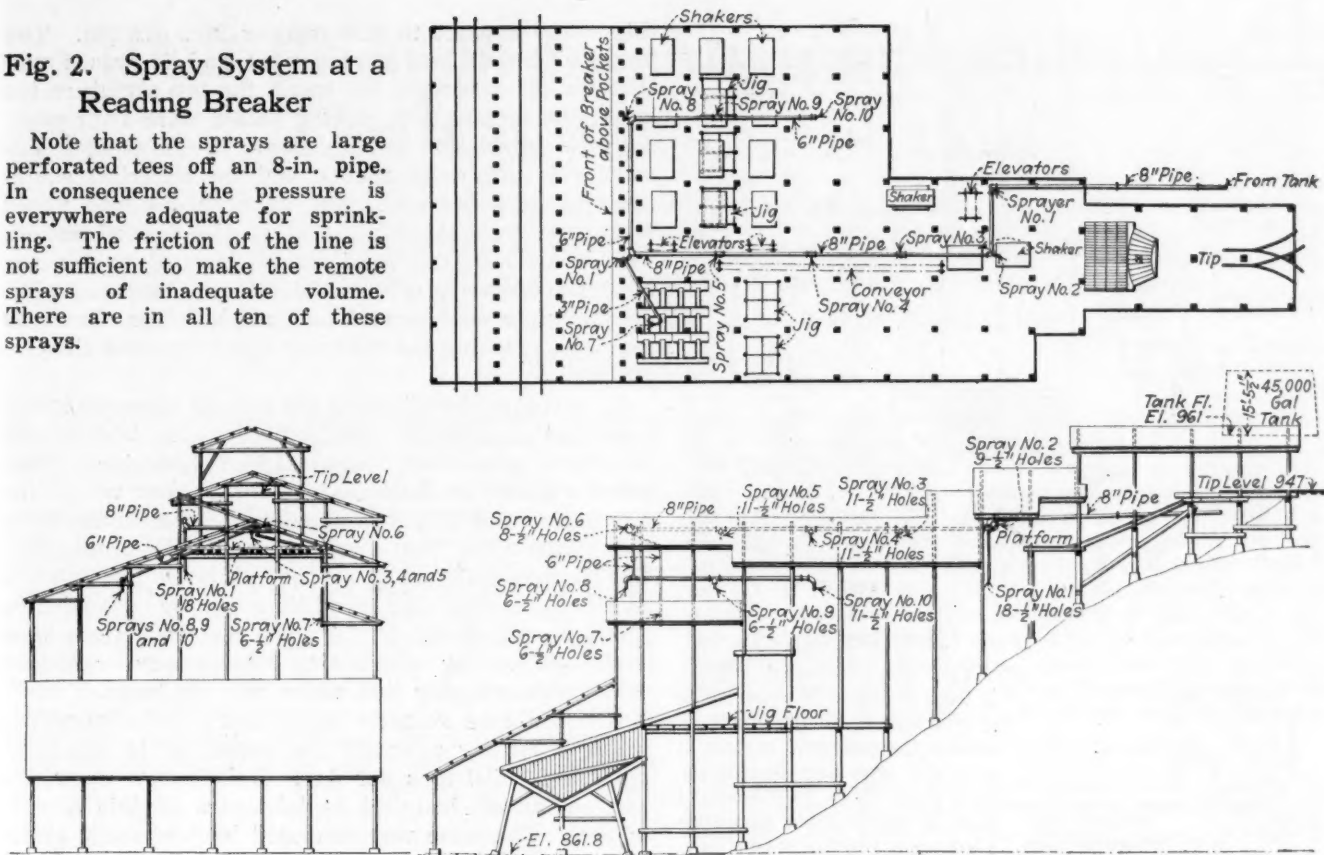




Fig. 2. Spray System at a Reading Breaker

Note that the sprays are large perforated tees off an 8-in. pipe. In consequence the pressure is everywhere adequate for sprinkling. The friction of the line is not sufficient to make the remote sprays of inadequate volume. There are in all ten of these sprays.



whereas in the upper region the land around the mines is so flat as to prevent such an arrangement being accomplished.

The water that is supplied to these tanks is either pumped there or flows into them by gravity. An 8- or 10-in. water main runs from the tanks to the pipe system in the breaker. This system of pipes is arranged similarly to that already described, as may be seen from Fig. 2, which shows the pipe arrangement in one of the Reading breakers.

#### NOT A SINGLE PLANK MUST REMAIN UNWETTED

At the breaker illustrated a test was made for a period of five minutes, and it was found that the water level in the tank was lowered 22 in. or that 8,000 gallons had been discharged into the spray system in that length of time. This thoroughly soaked every inch of the interior of the building. Had this not been the case more nozzles would have been added so as to accomplish this result. Wherever possible the tank is placed at a sufficient height above the breaker to give a higher head of water than is shown in Fig. 2.

Some difference in the organization of the men for fire-fighting purposes exists between the two companies. The Lehigh Valley has a regularly organized fire department. It is the duty of the men in that organization to respond to any fire alarm and they have power to call upon any other man who may be needed to cope with the fire. At the Reading company's mines there is no fire department, but when the alarm sounds all work stops and all men assist in fighting the flames.

#### VARIED DESIGNS OF SPRAY NOZZLES USED

Various types of spray nozzles have been tried out by these two companies. Figs. 3, 4, 5 and 6 show some of these types. The first three are those used at the mines of the Lehigh Valley Coal Co., while No. 6 is

used at the Reading and certain other operations. Fig. 5 is the latest and is by many considered the best pattern yet devised.

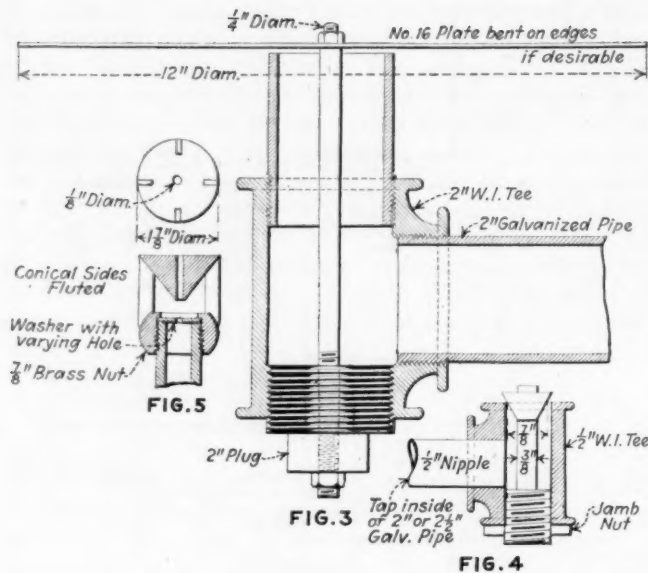
In laying out a spray system of this kind careful provision has to be made that little or no water remains in the pipes after it has been turned off, for, as at most plants water from the mine must be employed which is high in acid content, the pipe becomes corroded and filled with scale if the water is allowed to stand in the pipe. This corrosion will reduce the quantity of water that the pipe will carry.

The Lehigh Valley company is now considering the installation of a spray system in one of its collieries where there will be a vertical or approximately vertical drop from the end of the spray line to the bottom of the breaker. This would prevent any water from remaining in the pipe. If fresh water could be used the pipes could be kept full, and some one of the other standard systems of fire-fighting might possibly be employed.

#### VALVE ARRANGEMENT SAVES TIME AND MOTION

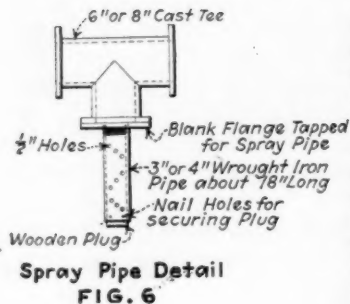
At one of the Reading breakers recently a fire started, but it was immediately extinguished by a system of protection like that shown in Fig. 2. An interesting detail, worthy of note, is the construction of the valves in the bottom of the tanks. These valves are nothing more than large wooden plugs inserted in the ends of the pipes and provided with levers extending to the outside of the tank. When it is desired to open a valve, a pull of the lever instantly opens the pipe to its maximum diameter. There is thus no lost time or motion, and the water is fed directly upon the fire.

Here is an anthracite development that the bituminous-coal industry would do well to copy in its tipples,



### Breaker Sprays

The spray marked Fig. 5 is that which is considered to give the best results. Fig. 3 shows the stream leaving a straight pipe and impinging on a plate 12 in. in diameter; Fig. 4, the stream escaping between a conical plug and a cylindrical pipe, and Fig. 5, the stream after leaving the pipe impinging on a fluted cone supported well above the orifice. Fig. 6 shows a Philadelphia & Reading Coal & Iron Co. spray.



its washeries and its other extensive surface works. A barrel and a bucket is an emblem of safety, not its accomplishment, yet it is all that only too many coal-mine plants can boast.

## How Excessive First Cost and Inadequate Output May Make Mining Unprofitable

BY E. STECK  
Chicago, Ill.

**C**HARGES for interest, depreciation, taxes and insurance may be so large as to make profit in mining impossible if excessive amounts are expended in construction and if in return for the expenditure adequate production is not obtained. A mine may be so constructed that from the very first its operation is attended by loss.

By properly designing each part of the mine equipment in relation to the other, great savings can be made in the original investment as well as the operating cost. The best equipment in the way of pit cars, tipples, hoisting engine, etc., may be purchased, yet the capacity expected from the mine may never be reached. The fixed charges and operating costs may be excessive because of improper co-ordination of the various elements affecting the output of the mine.

A large mining company recently decided to spend \$1,250,000 for top works, machinery, shafts and development of the bottom at a mine intended to produce yearly about 600,000 tons. Figuring 15 per cent per annum for interest, depreciation, taxes and insurance,

this would amount to \$187,500, or 31c. per ton. The proposed layout was investigated and it was found that the pit cars were too small, the top structure too large, the screens and picking tables were improperly designed in relation to each other; the hoisting equipment not sufficiently flexible and the electrical equipment of improper size. The mine as designed would yield yearly about 60 per cent of the desired output. This would raise the fixed charge from 31 to 52c. per ton. The operating costs would also have been excessive, due to some equipment being much larger than was required, reducing the efficiency and increasing the cost of repairs.

By properly co-ordinating the various elements in the mine the installation costs could be cut to \$750,000 and the yearly output increased to 750,000 tons. This would reduce the fixed charges to 15c. per ton. This difference of 37c. per ton is more than sufficient to change the mine from a losing to a paying proposition. The savings referred to are not achieved through any sacrifice in operating conditions or by substituting inferior equipment. In fact, the cost reductions were made entirely by eliminating unnecessary equipment or through reducing that which was too large.

Another case recently came under my observation where a mining company was expecting to obtain an output of 2,500 tons per day. Buildings were erected and equipment installed to take care of this amount of coal. The mine was developed by temporary equipment while the permanent equipment was being installed. When the new pit cars arrived, it was found that they lacked 1,700 lb. of estimated capacity. The size of the shaft limited the length and width of the cars, while the height of the roof would not permit raising their sides. The result was that the desired capacity of the mine could not be reached without prohibitive charges.

From the foregoing, it can be seen that it is highly important that all conditions affecting operation be carefully considered and investigated before any permanent equipment is purchased or installed. For this reason it is often desirable to use temporary equipment in developing a mine so that the permanent equipment can be selected with due regard to actual working conditions.

## Movement of Coal Improves

**T**HE Car Service Division of the American Railway Association has issued a summary of general conditions as of Oct. 29, which indicates that in the United States the percentage of cars on line to their owners on Oct. 15 was 96.2 per cent, as compared with 100.2 per cent on the same day in 1919.

There is a heavy demand for box cars on account of grain loading and not all orders have been filled. Loading of ventilated box cars with dead freight is to be confined to points in direct line to home roads. The demand for auto cars has decreased, while the demand for stock cars is quite heavy. The necessity to move these cars onto the owning lines is emphasized. Refrigerator cars are still in great demand and all railroads are cautioned to move them promptly and in accordance with outstanding orders.

The production of bituminous coal will average during October more than twelve million tons per week, and a substantial improvement in the movement of coal is noted. The necessity of continuing orders regarding open-top cars so as to get a maximum use of them still exists. The demand for flat cars in the Southeast for lumber and log loading is in excess of the supply and prompt handling is solicited.



# High Price an Incentive in Inculcating Thrift in the Use of Coal\*

With Largest Users Lies Responsibility for Leadership in Economy—Average Steam Plant Practice Shown To Be One-Twelfth Efficient in Use of Fuel—Central Stations in First Half of 1920 Gained 16 Per Cent in Power Production with 8 Per Cent More Coal

BY GEORGE OTIS SMITH†

**C**OAL is the shortest word we have to express industrial power and domestic comfort. Even the rumor of a coal shortage simply demonstrates that this fuel is in reality the staff of life to the industrial world, and the temporary stoppage of any of the larger sources of supply threatens a nation-wide crisis. Shut down our coal mines, and the country becomes not only cold but idle and hungry.

The figures of our total coal resources, millions of millions of tons, or even the few hundred million tons of our annual output, are too large to be grasped, and it becomes necessary to express the facts in smaller quantities. Roughly speaking, 1,000 tons of coal is what a mine worker mines in a year—the measure of what he contributes to the world's work and well-being. This human measure of 1,000 tons also has the advantage of being easily visualized as a short train load (20 cars) of coal on its way to serve the varied needs of the consumer, and in our brief review of the subject we may well first note what are these needs—the principal uses of coal, among which this unit of 1,000 tons is divided. (See Fig. 1.) Broadly stated, the largest use of coal is in furnishing motive power and heat for our industries and public utilities, 350 tons out of every 1,000 tons mined going to the boiler house of factory, mill, shop or power plant. But next to these seven carloads of coal distributed throughout the country are five cars, or 250 tons of coal, which the railroads need for their own use. The domestic demand for coal comes next, 165 tons out of each 1,000 tons of anthracite and bituminous coal being used in the homes of the land for heating and cooking. The coke ovens require nearly as much as the homes, or 130 tons; and the balance of our miner's contribution includes the coal for export and bunker use, 60 tons; the 35 tons of coal used in operating the mines themselves, which of course does not make up a part of our train load; and the 10 tons that goes to the gas works.

## INCUMBENT ON ALL TO MAKE BEST USE OF COAL

Even in this simple analysis of the uses of coal it would be difficult to establish any rigid scheme of priorities; we absolutely need coal for each of these uses, and this nation-wide dependence upon coal is so evident as to demand general attention to the subject of thrift in coal. Every citizen should do his part in making the best use of coal, but the responsibility of leadership in economy may with justice be placed upon the larger users.

The steel industry required in 1918 about 100,000,000 tons of coal, slightly more than two-thirds of it in the form of coke. So in dependence upon coal, this industry stands next to the railroads. At the bottom of the list of uses of coal, stated quantitatively, is blacksmithing, and the annual requirement of blacksmithing coal is less than a million tons. Contrast with the great steel plant, which consumes its 4 million tons of coal each year, the village smithy, which uses 50 pounds a day—and the question arises, Where is it of greater national concern that we begin to practice thrift in coal, at the little shop or at the big steel works? During the war the patriotic effort was made to save wheat and sugar in every home, however humble, and the aggregate results of such nation-wide thrift were most gratifying; yet with coal a different policy of initiating thrift seems warranted—the great industrial establish-

ment or the superpower plant rather than the home is the place where saving will accomplish most.

We are on the threshold of fuel economy. Unprecedentedly high prices for coal have summoned American genius to the task of getting the full value out of the half billion tons of bituminous coal we burn each year; indeed, we have been too long content simply to burn coal rather than to use it. With coal at a dollar a ton the consumer was the profiteer, and profiteer-like he thought it paid him to disregard any claims except those of his own immediate gain. Now, the higher prices have opened our eyes to higher values in coal, and we begin to see the possibilities of profit in avoiding waste both in the mine and in the boiler room.

## COAL CONSERVATION A PAYING PROPOSITION NOW

We do not have to recognize the claims of posterity for coal conservation, for we can see money in it for our own generation—to mine the coal that we have been leaving underground, to utilize every possible heat unit in what we burn, and especially to recover everything of value that the coal contains. When we indorse Mr. Hoover's characterization of the bituminous coal industry as the "worst functioning industry in the country," it is with no spirit of unfriendly criticism. The simple fact must be faced that the story of coal is a story of waste, all the way from the face of the mine working to the smokestacks of the boiler plant—waste of a natural resource, waste of human endeavor, waste of capital, waste of transportation capacity, and waste of energy—and of none of these have we enough, much less any to spare.

It is customary to express our coal resources in terms of

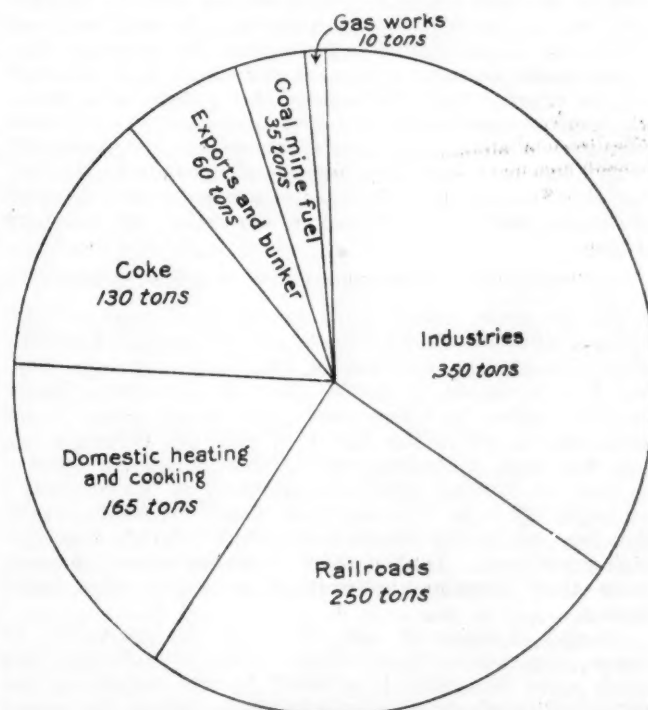


FIG. 1. WHAT BECOMES OF OUR COAL

Disposition of the miner's yearly output of 1,000 tons, including both anthracite and bituminous coal.

\*From an address, entitled "Thrift in Coal," delivered before the American Iron and Steel Institute, New York City, Oct. 22, 1920.

†Director, U. S. Geological Survey, Washington, D. C.

tons in the ground, but how inflated such an inventory becomes when we realize that of the ton of coal "in place," where Nature stored it for the use of man, the amount converted into mechanical energy, under the average practice of today, is only 76 pounds. The accompanying diagram, Fig. 2, exhibits the distribution of the losses thus indicated, in the responsibility for which mining engineer, mechanical engineer and consumer must all share. This general indictment of "average practice" makes the question of thrift in coal a national rather than an individual problem.

The proportion of coal we leave underground is a sad commentary on our appreciation of the value of coal, and

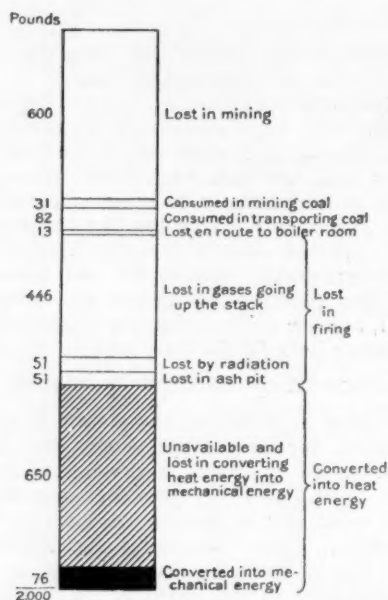


FIG. 2. EIGHT LOSSES IN COAL UTILIZATION  
From data, furnished largely by the Bureau of Mines, showing what becomes of a ton of coal under ordinary conditions.

the margin between high recovery, which may be stated at 95 per cent, and the average recovery of 70 per cent or less shows to what extent we are still wasting our coal at one place alone and where the world does not see the waste. By increasing the average output of the mine worker, we have made a gain of 50 per cent in the last three decades, so that we are saving man power if not coal.

Not only is coal wasted in the mining, for no sooner does a ton reach the surface than 44 pounds of it is taken as toll for running the mine—indeed, in the anthracite mines, where often more water is raised than coal, the combined pumping, hoisting, and breaker operating cost expressed in coal has been stated as high as 200 pounds to the ton. But electrification of coal mines is gradually coming, with gratifying results in efficiency of operation and economy of fuel.

#### CONSUMER'S RESPONSIBILITY FOR WASTEFULNESS

The consumer cannot evade his share of responsibility, because out of the 1,274 pounds of coal delivered at his boiler plant 548 pounds was lost in firing; he had been buying B.t.u.'s simply to throw away 40 per cent. Edwin Ludlow relates his observations at a large plant, where pride was taken in the fact that only the highest-grade coal was used, a standard of 15,000 B.t.u.'s being insisted on, but Mr. Ludlow called the attention of the company's executive officer to his boiler-room leaks, his steam results showing that he was obtaining only 11,000 B.t.u.'s from this high-grade coal. That coal user needed expert firemen more than chemists—better practice rather than more theory.

Another measure of coal waste in the generation of power, even where the conditions promoting efficiency are much more favorable, is afforded by the records of the public-utility plants of Massachusetts. During the month of June last the average coal consumption in all these plants was 2.29 pounds per kilowatt-hour, but at the

largest plant of the largest company the average was 1.8 pounds—a saving in coal of more than 20 per cent, representing the difference between best practice and average practice.

How to save coal on a country-wide scale is the question. O. P. Hood, of the Bureau of Mines, has made the point that in a boiler plant construction, operation, and fuel are to a certain extent interchangeable. Skillful planning and careful operation can take the place of part of the coal; and on the other hand cheap coal has made possible careless firing of poorly constructed boilers without the wastefulness of the whole procedure being apparent on the books. Waste that can be seen only as a theoretical proposition does not appeal with the same force as waste that writes itself in red figures; and now that coal is no longer as cheap as dirt but has taken on the dignity that comes with high prices, we naturally begin to think of careful use. Just as we learned with foodstuffs during the war we are learning now that the higher value must be both given to coal and won from it. Thus the opportunity has arrived for the fuel engineer to teach us thrift in coal.

#### ADVOCATES WIDER USE OF ELECTRICITY

Still more striking is the evidence that can be brought forward to show the coal saving possible through the larger use of electricity as the agency in applying the energy in coal to the aid of human labor. Again it is proper to note in advance that the steel industry is already motor-driven as probably no other industry is—indeed, the motors used by this industry aggregate nearly one-third of the power of all the motors installed in the United States. Without allowing for the great possible saving of coal by the full development of our water power, combined and co-ordinated with steam power in large systems of electrical generation and distribution, the contrast between

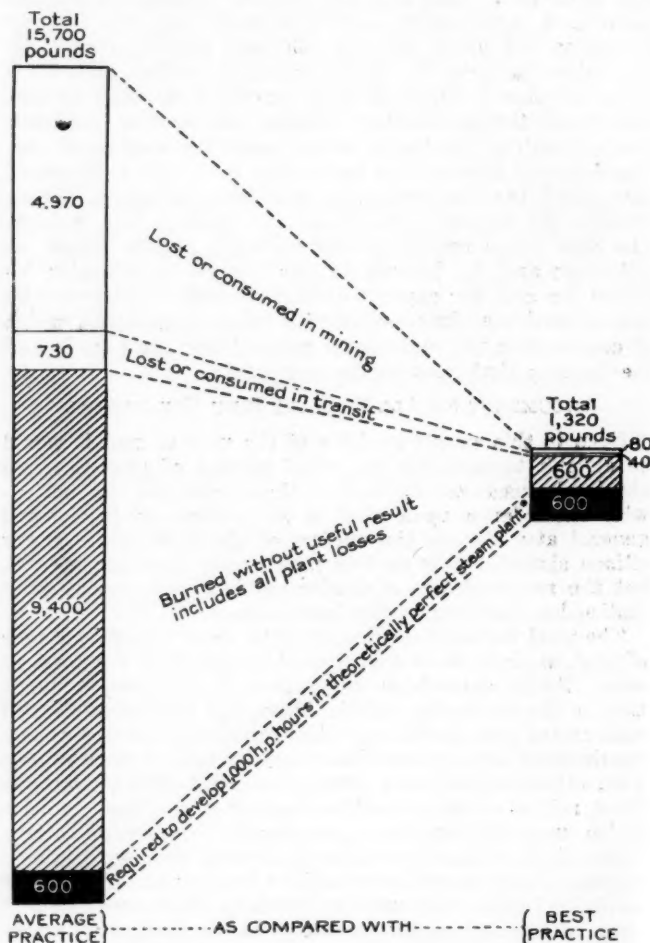


FIG. 3. AVERAGE AND BEST PRACTICE COMPARED

These losses in average practice are based on data from the Bureau of Mines and the Super-Power Survey, and are calculated as in Fig. 2, except that in this case allowance is made for the additional loss due to bad load factor.



present average practice and best practice in power generation is so great as to strain our confidence in the simple figures of coal waste.

The statistics of fuel consumption show that the average steam plant, which is a small one (about 200 hp.), uses eight times as much coal as is necessary in the largest central stations, where the profit payable to thrift is recognized—that is, assuming the same consumption as the average central station of the same size, our average-sized industrial steam plant would use 10 pounds per horsepower-hour. If to this initial saving of 7 pounds of coal out of 8 at the large electric power station are added the possible savings on the railroad and at the mine, the ratio between present average practice and present best practice becomes nearly 12 to 1. Even if this indictment of waste is discounted one-half, the power users of this country stand convicted of almost criminal negligence, for cheap power and plenty of it provide the only way to retain America's industrial leadership. For this reason both labor and capital are vitally interested in the power supply.

#### WASTEFULNESS OF STEAM PLANTS DISCLOSED

This contrast between the wasteful and the economical use of our coal resources is set forth in Fig. 3, which like Fig. 2 was compiled by my associate, F. G. Tryon. Starting with the 600 pounds of coal that contains heat units equivalent to 1,000 horsepower-hours, we find that the big electric station, with its modern steam turbine equipment, uses along with the 600 pounds of coal another 600 pounds from which it derives no return. This seems wasteful enough, but the little steam plant, with its poor load factor as well as much less efficient equipment, losing heat units up the stack, in the ash pit, through the steam pipes, and in the engine, wastes 9,400 pounds of coal for every 600 pounds it really utilizes—nearly a 16 to 1 ratio in favor of the big plant. So too, if railroads and mines were electrified and only 5 per cent of the coal instead of 30 per cent were left underground, 120 pounds of coal would mine and bring to the big plant the coal burned in generating 1,000 horsepower-hours, instead of the 5,700 pounds now actually required in serving the average steam plant with the 5 tons of coal it burns to get the same product of useful energy. The total cost of 1,000 horsepower-hours in terms of coal resources is therefore about two-thirds of a ton with efficient use, and nearly eight tons under the average conditions of waste at the little plant.

It is cause for general satisfaction, then, that in the first half of 1920 we find the power output of the central stations of the country increased more than 16 per cent over that of the corresponding period last year, while the fuel used seems to have increased not over half that percentage. In these public-utility plants the trend is decidedly toward fuel economy.

#### COKE MAKING AND BYPRODUCT OVENS

The use of coal in America for making coke dates back some eighty years, but the operation of byproduct ovens covers only one-third of that period, and indeed only last year did the output of byproduct coke first equal that of beehive coke. The field is thus divided between the old and the new practice, but two advantages of the byproduct ovens over the beehive ovens alone show how much the full substitution will mean to our country. First, the yield of coke in the byproduct ovens compared with that in the beehive ovens is 23 to 25 per cent greater with the low-volatile coals and 7 to 8 per cent greater even with the high-volatile Pittsburgh coal; and second, the recovery of 7 to 15 gallons of tar, benzol, toluol, and other oils, 16 to 30 pounds of sulphate of ammonia, and the surplus gas constitutes a great resource by itself. The recent consolidation of five great chemical companies calls attention afresh to the value of these wasted constituents of coal, for not only will this consolidation go far in making America industrially independent in the matter of dyes and other coal-tar derivatives, but the new corporation, which is one of the largest units in American industry, is founded chiefly on the profitable utilization of coal smoke.

Already fuel economy has reached so high a mark in the

largest steel plants that the present practice gives gratifying results. Take, for example, such a plant with an annual fuel consumption equivalent to perhaps 4½ million tons of coal, and we find there the best by-product coke practice with utilization of the by-product gas and tar for melting and heating throughout the plant; also the waste gases from the blast furnaces are used in gas engines to blow the furnaces and generate electricity to meet the extensive demand throughout the works both to operate cranes, machine shops, etc., and in motors to drive not only the smallest but also the largest of our rolling mills.

But to picture the extension of this thrift in the use of coal as planning on a national scale demands, we are forced to supply some conditions that are not yet realized. This use of coal first as a raw material and next only in part as a fuel means the extension of byproduct practice until in no home or public building or factory will we find raw coal burned, but in its place either coke or gas, the other products having first been extracted to furnish the fuel for our motor cars, the dyes for our clothes, the surface for our roads, and even the drugs for our aches and pains. Several new methods of carbonizing coal are now being developed with the purpose of increasing the yield of valuable oils and of obtaining coke residues better fitted for domestic use—all looking forward to this much more general use of coke.

#### UNWARRANTED OPTIMISM AS TO RESERVES

The fact that more than half of the world's coal reserves are believed to lie within the territory of the United States has led too many of us into unwarranted optimism. The captains of the great industries concentrated along the Atlantic seaboard will do well to think less of the millions of millions of tons of coal that are said to lie awaiting their need in various parts of this continent-wide country of ours, but rather to ask for details as to where this coal is and how available it is for the use of this and the next generation. The total tonnage involves strings of figures hard for us to comprehend, but the tonnage remaining in the great producing fields of the East is so limited as to compel us to foresee their exhaustion within periods of the same order of magnitude as those which executives figure as the expectancy of life for industrial enterprises.

For example, the Pittsburgh bed in western Pennsylvania was estimated forty years ago as good for thirty generations, but the rate of mining has so greatly increased that now we must measure the exhaustion of this largest bed in the Keystone State by the span of a single generation. This is not an exceptional illustration of the shortened life due to unexpected increase in drafts upon our coal resources, for in the Georges Creek field in Maryland this same bed, there called the "Big Vein," was believed forty years ago to have a life of at least 150 years, but today the field is regarded as almost worked out. Even if you turn to a less nearly exhausted field, such as the Pocahontas, the earlier optimistic calculations of an expectancy of life of four or five generations are now reduced to three or even two. The lesson is that no matter how carefully the tonnage estimate of the coal reserve is made, no one seems able to estimate the rate of increase in demand in this growing country of ours. Not yet do we show any signs of slowing down in our industrial progress.

#### INJUDICIOUS MINING METHODS ALSO USED

Another fact to be set down is that the best and most accessible coal is mined first, and even now we are skimming the cream from our coal resources. The truth should be stated even more plainly—we are mining much of the best coal with such disregard of the thinner beds in the same fields that we may be justly accused not only of carelessly skimming off the cream, but of throwing away the skim milk beyond any possible hope of recovery. We must therefore figure on increasing costs in the future, due to greater depth and longer hauls to market. This is another reason for delaying the exhaustion of our Eastern coal fields by making full use of the coal we are now mining.



## Discussion by Readers

Edited by

James T. Beard

### Assistant Mine Foremen Are or Should Be Safety Inspectors

*Where the duties of an assistant mine foreman are properly performed he is, in fact if not in name, a safety inspector and there would seem to be no need for another official under that name.*

AFTER reading the two letters in *Coal Age*, Oct. 7, one by Ostel Bullock, page 755, and the other by Oliver Young, on the following page, I desire to take exception to the ideas they seem to express in respect to the relation of the work of an assistant foreman to that of safety inspection in mines. Before going further, however, I want it clearly understood that I am a firm believer in everything that pertains to safety in the mines.

My idea of a safety inspector is that he should be charged with the duty of inspecting the entire mine, for the purpose of seeing that everything is done to properly provide for the safety and protection of life and property. He would be in no sense an assistant to the mine foreman. Where it is necessary to employ a safety inspector, and I think it is in a large mine, he should visit every working place and travel all roads and air-courses throughout the mine, after the manner of the mine inspector, only performing his duties more in detail than that official.

In other words, where a safety inspector is employed he would be a company inspector and would examine old gobs and abandoned areas and other places where a practical man might expect to find danger. Each day the safety inspector would make a verbal report to the mine foreman and advise in what way any dangers he has found can be best removed.

#### WHERE TROUBLE STARTS

It frequently happens that mine inspectors go through a mine and make notes of what they find and, going home, write out a great spiel regarding certain assumed dangers and send the report to the superintendent. That official promptly takes the matter up with the mine foreman and there is every chance of friction resulting, because the inspector did not confer directly with the foreman at the time of his visit, as he should have done. When an inspector follows the latter plan there is little chance of a clash between him and the foreman.

The mining law of Pennsylvania requires that every working place in the mine shall be visited by the mine foreman or one of his assistants at least once a day while the men are at work. In order to comply with this requirement of the law, there should be appointed enough assistant foremen to thoroughly examine each section of the mine, in the same manner as if the work was performed by a safety inspector. Each assistant foreman must be a man who can be trusted, and there are hundreds of them.

Now, what I fail to understand is why it should be necessary to appoint another official—a so-called "Safety

Inspector"—to follow up these assistant foremen, who are or should be safety inspectors in fact if not in name. Let me ask, Why not call them safety inspectors, if that would make assistant foremen perform their work with greater thoroughness.

In his letter, to which I have referred, Mr. Young has well defined the duties of an assistant foreman. I would say if any assistant covers the ground and performs the duties set forth in that letter, there is little need for a safety inspector in his mine. If an assistant foreman cannot be trusted to rightly perform his work in that position, he could not be trusted if raised to the position of a safety inspector.

In closing, let me add, it is a wrong idea to assume that the duties of an assistant foreman end with seeing that he loads what coal is expected of him. It is of even greater importance to see that the man is working in a safe place and performs his work in a safe manner. Indeed, every official employed in the mine should be a safety inspector.

THOMAS HOGARTH.

Starford, Pa.

### Factors in Maintaining a Uniform Output of Coal

*There are a number of things concerned in maintaining a uniform output of coal in a large mine, some seemingly unimportant; but the main thing is the tact and practical judgment displayed by the foreman.*

REGARDING the question of keeping the daily output of coal uniformly regular in a mine, my opinion is that it is not a matter of a proper distribution of men, alone, as some would have it appear. Equally important is the perfecting of a good haulage system, such that the cars are kept moving and there is no waiting of drivers and motormen.

In one instance I recall, the mine foreman made out a requisition for fifty new mine cars, claiming that the shortage of cars was responsible for the frequent delays and consequent loss in daily tonnage. As usual in such cases, an investigation was ordered, and it developed that there was much delay in two sections of the mine where the motormen generally had to wait for the twenty cars they were accustomed to haul in a single trip.

#### HAULING SHORTER TRIPS AVOIDS DELAY

The result was that they were told to haul only 15-car trips, hereafter, in each of those sections, as the men working there could not load 20 cars in the time intervening between trips. This change corrected the trouble and there were cars enough to keep the men supplied working in other portions of the mine.

The point to be emphasized, in this connection, is that the percentage output of each section of a mine must determine not only the distribution of the cars; but must also regulate the size and number of trips hauled, in order to keep everything moving and no cars



standing idle, which will insure a steady output. Another important matter is to keep the tracks in good condition, which will mean less delay in haulage and fewer cars laid up in the shop for repairs.

Where two or more mines deliver coal to the same tippie a proper system of haulage and distribution of cars must be employed and nothing haphazard allowed. The trips must be run on a schedule, so that each trip will make its round in a certain time. Of course, at times, a disarrangement will occur but that will be quickly righted by the foreman whose duty it is to see that all cars are kept moving.

#### GOOD LIVING AND WORKING CONDITIONS ATTRACT LABOR TO THE MINE

The distribution and handling of men in a mine generally resolves itself into a geographical problem. Some mines having better living conditions and a better quality of coal are not as hard pressed by labor shortage as other districts where conditions are not as good; but in any event a mine foreman must use tact and judgment in the distribution of his men. It is well to keep the golden rule in mind, but men must be studied, and more especially so when a shortage of labor exists. In my opinion, the successful handling of men requires firm but kind treatment, fulfilling all promises, while not being too familiar, remembering the old adage "Familiarity breeds contempt."

In the working of abnormal places, only efficient miners, men that you know can be trusted, should be given such places. In many mines it seems to be the practice to put new men in these abnormal places; but I have never seen the plan work successfully. After a few days, the new men will generally quit such places, and tell other miners what a poor show they had at such a mine, which is harmful, in many ways, to maintaining a uniform output.

In the working of low coal, miners accustomed to low coal make the best workers. Unless machines are used for cutting the coal, it is very hard for miners accustomed to high coal to learn how to put their shoulder on their knee and back up a shot to four feet deep.

In conclusion, let me suggest that only tried men, who you know to be good and steady workmen, be used in abnormal places. Men who move about from place to place are often too independent and not reliable.

New Castle, Colo.

V. FRODSHAM.

#### Would Use the Room-and-Pillar System

*The experience of this correspondent leads him to believe that the room-and-pillar system can be employed to work out the coal from a lower seam without damage to a seam, lying 250 ft. above.*

**T**HERE should be no great difficulty expected in working out the coal from a 42-in. seam lying 250 ft. below another coal seam. It is my belief that the lower coal can be worked safely and without affecting the seam above in a manner that would damage its future working.

Judging from the information given in this inquiry, which appeared in *Coal Age*, Sept. 16, p. 594, I assume that the intervening strata separating these two seams consists of the ordinary shales, sandstones and fireclays generally found in the coal formations. In this case, the coal being only 42 in. in thickness, it will be necessary to take down about 30 in. of rock over the roads so as to give the required headroom for the cars.

Assuming this is a good clean coal, my preference would be to employ the room-and-pillar system. Under similar conditions to those here described, I have used both the longwall system of mining and the room-and-pillar system, advancing and retreating. In this instance, however, I would consider it advisable to adopt the room-and-pillar system in working out the lower seam. I would drive the rooms on 50-ft. centers and take out 50 per cent of the coal in the first working when driving the rooms.

It is important to stow all refuse of the seam and the rock taken down from the roof on the roads in the waste space in the rooms as they are driven up. This will not only furnish a good firm support for the roof when drawing back the pillars, but will do much to avoid the breaking of the roof in case the overlying strata contains water. It will also reduce the tendency to creep if the bottom is a soft fireclay. Indeed, the entire work is made more safe and there is less loss of coal where proper care is taken in the stowing and building of the waste material.

My experience is that the adoption of the room-and-pillar system, in this case, will provide easy ventilation if the work is properly conducted. When robbing, in this method, I would advise starting the work at the extreme inby end and drawing everything back under the retreating system, which will leave all danger behind. I have found that it is best not to work too many places on one gangway, at one time.

Owing to the thinness of this seam, there is little to be feared from a possible breaking of the roof. In that case, the overburden will settle down firmly on the waste, and any fall in the open space will quickly choke itself and prevent the break from reaching the upper seam, which will not be harmed for the future mining of that seam.

ROBERT THOMAS.

Forty Fort, Pa.

#### Years in the Mine Do Not Always Make the Skilled Miner

*The practical skilled miner is the man who recognizes danger and takes every needed precaution to avoid accident. The man who is willing to take a chance is not a practical or a skilled miner.*

**H**OW many of us older miners have gone into men's places in mines and noted the conditions and remarked on coming out, "There's a miner who is a miner and knows his business. He is a regular coal hog, as the expression goes."

In my opinion, a practical skilled miner is a man who is able to see a danger and takes care to protect himself. He performs his work in the safest way, and is thorough in what he does. The props are set plumb with a good cap-piece over each post; the coal is spragged while being mined.

On the other hand, when one finds a place in bad shape, needing timber, or props set in a careless haphazard manner, and the miner at work under loose top or his coal not spragged, it does not require any wisdom to discover that the man working the place is neither a practical nor a skilled miner.

It makes little difference how many years a miner has worked at his calling; he may have mined coal a lifetime and yet not be a practical miner, because he has never learned how to plan and perform his work with skill and in a safe and an economical manner.

He fails to understand the real principles involved in the mining of coal and which are necessary to insure success.

There are miners who think that a few years' experience in mines gives them the privilege of taking chances. They will argue with a foreman who attempts to point out a danger that threatens them. They are a rule unto themselves. While they may use some precautions at a time when they look for the foreman to appear, they throw these aside the moment he has turned his back and left them.

Frequently it happens that a good miner has failed to observe a danger that is imminent; but starts at once to make himself safe when his attention is called to the matter. Such a man is a practical miner. He believes in dangers being always present and knows that safety depends on using every possible precaution to avoid accidents.

#### OLD EXPERIENCED MINERS HARDEST TO HANDLE

It has been my experience that the miners who give the most trouble are men who have worked long in the mines and come to feel that they know as much about mining coal as the boss can tell them and, perhaps, more. This is particularly true if the miner is somewhat older in years than the boss. I believe that five accidents out of every eight happen to men whose length of service in the mines should have made them experienced miners.

There is no hard-and-fast rule that will determine between the skilled and the unskilled miner. It is a question that must be answered by observation. Careless and shiftless habits do not mark a worker as skilled or practical in any calling or occupation and far less in the dangerous work of mining. As the Good Book says, "By their fruits ye shall know them."

The mining law of Pennsylvania clearly specifies that an inexperienced man can only be employed, in mines generating gas, when he is given in charge of an experienced miner who is made responsible for the man's safety. But experience and inexperience do not define the difference between the practical skilled miner and one who lacks these qualities.

Johnstown, Pa.

ASSISTANT FOREMAN.

### Work the Lower Seam by Longwall

*With a view to securing the largest extraction of coal in the working of two seams, the lower or underlying seam should be worked by the longwall system of mining, which has advantages that recommend that method particularly for the working of thin coal.*

**R**EFERRING to the inquiry of a Kentucky superintendent, *Coal Age*, Sept. 16, p. 594, who asked for the best method of working the coal in a seam lying 250 ft. below another seam, it is strange to me that there should not have been given more specific information regarding the total depth of cover and the inclination and character of the strata separating the two seams.

In this inquiry, the only information given is the thickness of the lower seam and that of the intervening strata, the former being 42 in. and the latter 250 ft. I often wonder how it is possible for many of the inquiries that appear in *Coal Age* to be answered intelligently when the inquirers fail to furnish important data bearing on their problems. In answering such

inquiries, it is necessary to assume conditions that may or may not represent the case in hand.

In this instance, I agree with what the editor has said in his reply, in respect to employing the longwall method of mining the coal in the lower seam. For several reasons, the longwall method will prove the most economical and safest to adopt. First, the coal being only 3½ ft. in thickness, it will be necessary to take down 2½ or 3 ft. of top, or to lift the same amount of bottom. In most cases, I would prefer the former.

Again, this rock taken from the roads will furnish good building material for the packwalls, which can probably be made from 10 to 12 ft. in width on both sides of each road or gateway. These wide roadpacks will make it unnecessary to use much timber for building cribs on chocks, and if the packs are well built there will be little difficulty in keeping the roads open.

The amount of timber to be used at the working face will depend on the nature of the roof immediately above the coal, and the depth of cover as determining the roof pressure. It will be wise, however, to carry at least one row of props, set six, eight or ten feet apart, according to conditions. These posts should be withdrawn as the face of the coal is advanced, but not until a second row of posts has been stood nearer the face. No timber must be allowed to remain standing in the waste, as that will interfere with the uniform settlement of the roof and cause an unequal pressure to be thrown on the face of the coal. At times, it may be necessary to carry a third row of props at the face.

#### IMPORTANT ITEMS ON WHICH THE SUCCESS OF THE LONGWALL SYSTEM DEPENDS

The amount of refuse in a seam is always an important matter in working longwall. This refuse is stored in the waste. In Wales, it was customary to employ daymen to separate the refuse from the coal and throw it back from the side of the road, while the night shift was employed in bringing rock from other parts of the mine, or from roads where men were brushing the roof.

To my mind, the main issue, in mining a seam of coal of this thickness, is to make sure of providing and maintaining a good main haulage road. This is generally the main travelingway for men and mules in passing to and from their work, as it would be expensive to maintain a separate travelingway in longwall work.

The gateroads should be laid out on about 50- or 60-ft. centers. Two men should load coal on each gateroad, which would give 25 or 30 ft. of face to each man, on either side of the road. The coal is then either pitched to the side of the road with the shovel, or conveyed there in small sheet-iron boxes that can be lifted and dumped into the car by hand. In England these boxes are called "Curling boxes."

However, in my opinion, a system of mechanical loading could be used to advantage, as for example the scraper system that has been mentioned frequently in *Coal Age* and advertised in its pages (see Sept. 23, p. 63). Let me say that my experience with this kind of loader enables me to speak well of its utility where coal is mined on the longwall system.

In closing, it only remains to refer incidentally to what the editor has already emphasized regarding the necessity of leaving an ample shaft pillar. If this is done, I feel that no difficulty will be met later in taking out the coal when working the seam above.

Plains, Pa.

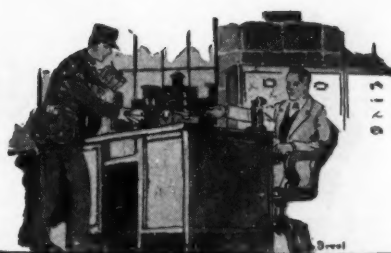
RICHARD BOWEN.





# Inquiries of General Interest

Answered by  
James T. Beard



## Pay For Drawslate

*Estimating the allowance to be made for handling drawslate in mine openings, by the thickness of the drawslate, in inches, per square foot of area of roof.*

SOME argument has arisen here, in reference to the allowance made for drawslate that has come in when working a room 25 ft. wide. The measurement in question starts at a point 21 ft. from the face of the room. At that point the drawslate is 12 in. in thickness. Seven feet nearer the face, the thickness of the slate is 9 in., and again seven feet nearer the face it is 6 in., while at the face the thickness of the slate is but 5 in. If the miner is to receive 2c. per inch of thickness, for an area 3 ft. long and 5 ft. wide, what payment should be made for the drawslate in this room?

Blanco, Okla.

FRANK PATTERSON.

Estimated on a basis of inches, per square foot of area, the rate of pay is  $2 \div (3 \times 5) = 2/15$  c. per in., per sq.ft. of slate taken down. The drawslate in this room is divided into three sections, each containing  $7 \times 25 = 175$  sq.ft. The average thickness of the slate in the first section is  $\frac{1}{2}(12 + 9) = 10\frac{1}{2}$  in. Likewise, the average thickness in the second section is  $7\frac{1}{2}$  in., while that in the third section, next to the face, is  $5\frac{1}{2}$  inches.

At the estimated rate, the total payment for drawslate, in this case, is  $2/15 \times 175(10\frac{1}{2} + 7\frac{1}{2} + 5\frac{1}{2}) = 548\frac{1}{3}$  c., or \$5.48.

## Lighted Cigarettes In Gas

*Though it is possible that a lighted cigarette may not ignite firedamp, the fact would not warrant taking a cigarette into a gassy mine.*

HAVING recently overheard an argument between a mine foreman and his fireboss, as to whether a lighted cigarette would set off gas, I resolved to submit this question to *Coal Age*. It is a surprise to me that the fireboss claimed that gas could not be set off with a cigarette, while the foreman claimed that it could. The question referred to the glowing end of a cigarette, but no flame. Also, let me ask, Will a spark caused by a pick striking a sulphur ball or a hard rock set off gas if present?

Mount Carmel, Pa.

MINER.

There is no recorded instance, as far as we know, that gas has ever been fired by the glowing end of a cigarette. To ignite gas requires the concentration of a sufficient amount of heat for a sufficient time, though the latter is but a fraction of a second, and depends on the intensity (temperature) developed. A familiar example is the failure of a smoldering taper to ignite the gas coming from an open jet.

The investigations of the Bureau of Mines, relating to the ignition of gas by the carbon filament of a broken lamp shows that the factors assisting the ignition of the gas are the size of the filament, the cooling effect of

the intruding air and gas, the temperature to which the filament has been heated by the current and the length of time that elapses before the filament is broken. Firedamp is more readily ignited in a still atmosphere than in an air current, owing to the cooling effect or dispersion of the heat when the air is in motion.

Putting these facts together indicates that while ignition is possible by a momentary spark of sufficient intensity, a longer exposure to a glowing ember, as the end of a cigarette, would probably fail to produce ignition. A spark produced when a sulphur ball or hard rock is struck with a pick, may have a high intensity, and there is every possibility that gas, if present, would be ignited by such a spark, though it last but the fraction of a second the same is true of a sparking commutator, the blowing out of a fuse, or the breaking of a live-wire conductor. In each case there is the necessary concentration of heat to produce ignition.

The temperature of ignition of pure methane mixed with air is practically 1,200 deg. F.; and, while the temperature of ignition of the carbon is given as low as 356 deg. F. (Fayal), it is important to note that the carbon filament of a lamp heated to incandescence has a far higher temperature but is not burned, owing to the absence of air within the bulb. It is this high temperature at the moment the bulb is broken that makes the ignition of gas possible under certain conditions depending on the size of the filament and the manner in which the bulb is broken.

Notwithstanding these facts, it goes without saying that cigarettes, lighted or otherwise, should never be permitted in a gassy mine. We shall be glad to have the opinion of others on the subject.

## Coal Dust, Gas and Air

*The fine dust of an inflammable coal held in suspension in the mine air is explosive, with or without the addition of gas.*

IN ONE section of our mine, there is so much dust I formed that the air on the road, at times, seems filled with a fine dust cloud. I want to ask what percentage of gas must be present in the air current to make this dust explosive, and can that proportion of gas be detected on the flame of a safety lamp?

Belleville, Ill.

MINE EXAMINER.

Air charged with the fine dust of an inflammable coal is explosive whether or not any gas is present. All that is needed for the ignition of such a mixture of dust and air is a flame of sufficient volume and intensity. The ignition will not take place on an ordinary lamp flame. But, on the other hand, the flame produced by a blownout shot would be particularly dangerous in such an atmosphere. The danger is rapidly increased by the presence of the smallest percentage of gas. It is stated that less than 1 per cent of gas is unsafe in a dust laden atmosphere where naked lights are used.



# Examination Questions

Answered by  
James T. Beard



## Mine Bosses' and Firebosses' Examination Indianapolis, Ind., 1920

(Selected Questions)

**QUESTION**—Discuss the subject of mine ventilation, setting forth the purposes, mechanical devices and their uses, quality of air required and how determined, quantity of air and how determined, humidity and temperature and how determined, mine gases, how detected, their danger and how prevented. Give the law respecting mine ventilation.

**ANSWER**—The purpose of ventilating a mine is to supply a sufficient quantity of pure air to dilute and sweep away the gases generated in the mine and make it healthful and safe for work.

In all up-to-date mines today, the air is set in motion by either a blowing or an exhaust fan. The latter type is best adapted to mines generating gas. In such mines the main haulage road is made the intake for the mine in order to avoid the use of doors on the shaft bottom, which would be necessary if a blowing fan was installed.

The quality of the air must be such that the oxygen content shall not fall below the normal, 20.9 per cent. This is best determined by the use of the Haldane flame test, which consists in burning a taper in a small tube  $\frac{3}{4}$  in. in diameter and 7 in. in length. The taper burns less and less brightly as the oxygen content is decreased, and the flame is finally extinguished when the oxygen falls to about 18.8 per cent, owing to the presence of about 11 per cent of carbon dioxide.

The quantity of air in circulation must be sufficient to comply with the mining law of the state and keep the mine free from gas and safe. The quantity of air passing in an airway is ascertained by multiplying the sectional area, in square feet, by the average velocity of the current, in feet per minute, as indicated by the observed reading of the anemometer.

The best working conditions obtain when the relative humidity of the air ranges from 60 to 70 per cent and the temperature does not exceed 60 deg. F. In the working of a dry and dusty mine where the coal is highly inflammable and some gas is generated, it is generally advantageous to maintain a higher humidity of the air by spraying or by other artificial means to prevent, as far as possible, the formation of dust and its suspension in the air. The relative humidity of the air is determined by the use of the psychrometer and the temperature by the ordinary thermometer.

The common mine gases are methane or marsh gas ( $\text{CH}_4$ ), carbon monoxide ( $\text{CO}$ ), carbon dioxide ( $\text{CO}_2$ ) and hydrogen sulphide ( $\text{H}_2\text{S}$ ). Methane is determined by observing the cap formed on the flame of a safety lamp or the action of the flame when that gas is present in the air. Carbon monoxide is detected by observing its effect on caged mice or birds, which are prostrated by a far less percentage of the gas than affects the human system dangerously. Carbon dioxide is detected

by the dim burning and final extinction of the lamp and by the headache and nausea produced in breathing this gas.

Methane is dangerous because of its forming an inflammable or explosive mixture with air. Carbon monoxide is extremely poisonous, less than 1 per cent of this gas often proving fatal when breathed but a short time. Carbon dioxide produces headache, nausea, prostration and death when a sufficient percentage of the gas is present in the air breathed. Hydrogen sulphide, though poisonous, and explosive when mixed with air, is seldom present in the mine in dangerous quantity. These dangers are all prevented by the thorough ventilation of the workings and careful inspection of the mine.

The Indiana Miné Law requires the circulation of 100 cu.ft. per min. for each man and 300 cu.ft. per min. for each mule employed in the mine, the air current to be conducted in such a manner as to keep the workings free from gas and safe for work.

**QUESTION**—Discuss haulage tracks in mines, with respect to bed, gage, weight of rail, ties and nails, fishplates, curves, grades, switches, ballast, drainage and the law respecting wide entries and refuge holes.

**ANSWER**—Haulage roads must be kept in the best possible condition, tracks well ballasted on a good road-bed, all curves and grades being as light as possible and the latter favoring the movement of the loaded cars wherever conditions permit. The roads must be well drained, switches carefully laid to prevent the derailment of cars. The size of rail employed will depend on the kind of haulage in use and weight of the motors and cars. All rails must be securely fastened to good ties with proper spikes and joined together with substantial fishplates. The gage of the track will depend on the size and capacity of the cars, weight of motor and character of the top and bottom of the seam as determining the width of the roadways.

Regarding width of entries, the Indiana Mine Law requires a two-foot clearance on one or both sides of a track where drivers are hauling cars. This space must be kept free and unobstructed by timbers, loose slate or other material. The act does not apply to mines operating in veins three or four, commonly known as the Lower and Upper Veins, respectively, in the block-coal fields of Indiana. Sec. 13 of the Indiana law provides for maintaining unobstructed refuge holes, 4 ft. wide and 3 ft. deep as measured from the side of the car. Such holes must be cut in the sidewall of all single-track haulways where power is employed for haulage, and on all gravity planes or inclines that persons must travel in going to and from their work, such holes to be not more than twenty yards apart. On roads where animal haulage is employed, except on entries where rooms are turned at regular intervals not exceeding twenty yards apart, the same refuge holes are required driven to a depth of  $2\frac{1}{2}$  ft., unless there is this clearance between the side of the car and the rib.



# News from the Capital

By Paul Wooton



## Prosecutions Under Lever Act Not to Cease, Department of Justice Announces

**I**N A STATEMENT reviewing the work of the fair-price commissions, which were suspended Nov. 1, the Department of Justice refers to coal prosecutions as follows:

"Early in June, 1920, the departments began to receive complaints that bituminous-coal prices at the mines then ranged from \$7 to \$11 a ton, with further increases imminent in the face of an average price under Fuel Administration control, which had shortly before been suspended, of \$4 at the mines.

"It was realized that this was not a mere sporadic condition, and peremptory instructions were forwarded to all U. S. attorneys to give special attention to the matter and seek indictments under the profiteering provision of the Lever Act where investigations disclosed that an unreasonable profit had been exacted.

"The principal bituminous-coal producing fields are in Alabama, Colorado, Illinois, Indiana, Kentucky, Missouri, Ohio, Pennsylvania, Tennessee and West Virginia. In five of these States—namely, Indiana, Colorado, part of Kentucky, Pennsylvania and Missouri—the U. S. attorneys were effectually precluded from taking any action to prosecute coal profiteers, since in those states the District Courts had held the law unconstitutional. Complaints were investigated even there, however, with a view to instituting prosecutions in the event the Supreme Court should uphold the law.

"In the other states, where the constitutionality of the law was upheld, hundreds of indictments have been found and substantial relief has been afforded the consumers."

The department says the abolition of the fair-price commissions does not mean a discontinuance of the department's activities in prosecuting violations of the Lever Act. A substantial portion of the appropriation has been held in reserve for this purpose. It says the fair-price commissioners were abolished primarily because their continuance meant a serious curtailment of profiteering investigations.

## I. C. C. Orders Coal-Car Inquiry

**F**OLLOWING complaints of alleged graft in the matter of distribution of coal cars, the Interstate Commerce Commission on Wednesday, Nov. 3, ordered an investigation in the matter of distribution of cars for shipment of coal in interstate and foreign commerce. The commission will hold hearings in the matter at a date to be announced later, and will endeavor to ascertain if the charges are true, looking toward action in the case.

It has been reported, the commission stated, that certain persons and corporations have given money to the railroads and obtained unjust and unreasonable preferences in shipments of coal, subjecting other shippers to undue disadvantages.

Following is the notice issued by the commission:

General session of the Interstate Commerce Commission, held at its office in Washington, D. C., on the third day of November, A.D., 1920, in the *Matter of the Distribution of Cars for Shipments of Coal in Interstate and Foreign Commerce* (No. 11917).

The commission having under consideration the subject matter covered by the above title, and having received information from various sources that statements have been made, which, if true, tend to show that the law has been violated in certain ways,

namely: That certain persons, firms and corporations have offered, granted and given money and other things of value to common carriers and their agents, and to others, for the purpose of obtaining, and that said persons, firms and corporations have obtained, unjust discriminations in their favor, and undue and unreasonable preferences and advantages, from said common carriers and their agents, and from others, in connection with the distribution of cars for use, and which have been used, in making shipments of coal in interstate and foreign commerce; that by reason of the premises certain other persons, firms and corporations have been unjustly discriminated against and subjected to undue prejudices and disadvantages, and that the aforesaid common carriers and their agents, and others, have solicited, accepted and received money and other things of value for the purpose and with the effect above set forth:

It is ordered that a proceeding of inquiry and investigation be, and the same is hereby, instituted into and concerning the several matters and things above mentioned and described, in order that the commission may keep itself informed and that it may hereafter take such action concerning said matters and things as it may determine upon and consider necessary, proper, or appropriate.

It is further ordered that this proceeding be set for hearing at such times and places, and that such persons be required to appear and testify or to produce books, documents and papers as the commission may hereafter direct; and that the investigation be carried on in the meantime by such other means and methods as may be deemed appropriate, and,

It is further ordered, that a copy of this order be served upon such common carriers and others as the commission may hereafter designate.

## Coal Legislation and Government Control Studied as Session of Congress Nears

**T**HE Cleveland meeting of the operators and the approach of the date for the assembling of Congress have occasioned lively speculations as to what will happen in the way of legislation this winter. It is taken for granted that Congress will review in detail the developments of the coal year. It is recognized that the authority of the states, under their police powers, to fix prices and regulate the coal industry is certain to come up for active discussion. It is fully expected that there will be some talk of nationalizing the coal mines.

There is no uneasiness among operators as to the probability of Congress approving such action as has been taken by the State of Indiana. Most certainly the nationalization idea will not be given a serious thought. It is known, however, that great pressure could be enlisted for legislation which would vest the President with power to fix coal prices during periods of emergency. Some are of the opinion that experience during this coal year has demonstrated that distribution cannot be controlled effectively unless price also is controlled.

It is admitted that recent events have made more likely a more favorable attitude on the part of Congress toward the Frelinghuysen Coal Commissioner bill. If there should be any thought on the part of Congress of vesting the President with permanent price-fixing powers, it is regarded as probable that Congress would make provision for a permanent official to whom the price-fixing power could be delegated in case of emergency. If a coal commissioner were authorized there would be plenty to occupy his attention during normal times. This would keep him in constant touch with the coal industry.





## Day Wages Now Paid in West Virginia

IN the tables appearing below a comparison is made of the day wages now paid in the Kanawha, New River, Winding Gulf, Pocahontas, Tug River and Thacker coal fields Oct. 1, 1920.

WAGE OF INSIDE DAYMEN IN WEST VIRGINIA

Occupation	Kanawha Max.	New River Min.	Winding Gulf Max.	Min.	Tug River Max.	Thacker
Machine runners.....	\$7.18	\$7.18	\$7.58	\$7.58	\$7.52	\$7.52
Machine helpers.....	6.70	6.70	7.22	7.13	6.72	6.72
Motor runners.....	7.18	7.18	7.58	7.58	7.12	7.12
Motor brakemen.....	6.70	6.77	7.05	6.92	6.72	6.72
Trip riders.....	6.70	6.77	7.05	6.92	6.72	6.72
Drivers, one mule.....	6.95	6.65	6.90	6.72	6.72	6.72
Drivers, two miles.....	7.11	6.77	7.05	6.92	7.12	7.12
Bratticemen.....	6.70	7.05	7.42	7.37	7.12	7.12
Bratticemen, helpers.....	6.70	7.05	6.83	6.64	6.48	6.48
Track layers.....	7.04	7.05	7.42	7.37	7.12	7.12
Track helpers.....	6.76	6.65	6.90	6.72	6.48	6.48
Timber men.....	6.70	7.05	7.42	7.37	7.12	7.12
Timber helpers.....	6.70	7.05	6.83	6.64	6.48	6.48
Drill runners.....	6.70	7.05	7.42	7.37	7.12	7.12
Slate shooters.....	6.82	6.89	7.20	7.11	6.48	6.48
Slatemen.....	6.70	6.65	6.90	6.72	6.48	6.48
Trappers, men.....	5.02	4.00	6.83	6.64	6.48	6.48
Trappers, boys.....	3.65	4.00	4.27	4.29	6.48	6.48
Inside car pushers.....	6.70	7.05	7.42	7.37	7.12	7.12
Mine door repairer.....	6.70	7.05	7.42	7.37	7.12	7.12
Pipe men.....	6.70	7.05	7.42	7.37	7.12	7.12
Pumpers.....	6.70	6.70	6.96	6.80	6.48	6.40
Skilled wiremen.....	6.70	7.18	7.58	7.58	7.12	7.12
Wiremen, helpers.....	6.70	6.74	7.01	6.87	6.48	6.48
Bottom cagers.....	6.70	6.85	7.16	7.05	6.48	6.48
Inside greasers, men.....	5.02	6.60	6.83	6.64	6.48	6.48
Inside greasers, boys.....	3.65	4.00	4.27	4.29	6.48	6.48
Inside car couplers, men.....	5.02	6.60	6.83	6.64	6.48	6.48
Inside car couplers, boys.....	3.90	4.00	4.27	4.29	6.48	6.48
Inside car droppers.....	6.70	7.05	7.42	7.37	7.12	7.12
Miners taking day man's place.....	6.70	7.05	7.42	7.37	7.12	7.12
All other inside day labor.....	6.70	6.60	6.83	6.64	6.48	6.48

The Kanawha and New River wage advance was effective Aug. 16 and the Winding Gulf, Tug River and Thacker wage advances Sept. 1.

WAGE OF OUTSIDE DAYMEN IN WEST VIRGINIA

Occupation	Kanawha Max.	Min.	New River Max.	Min.	Winding Gulf Max.	Min.	Tug River Max.	Thacker
Drum runners.....	\$7.50	\$7.00	\$7.10	\$7.48	\$7.45	\$7.45	\$5.36	\$5.36
Car dumpers.....	6.50	6.00	6.65	6.90	6.72	6.72	5.36	5.36
Hoisting engineers.....	6.00	6.50	6.58	6.80	6.61	6.56	5.36	5.36
Top tippie.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Picking table.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Railroad-car trimmers.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Railroad-car cleaners.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Railroad-car droppers.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Blacksmiths.....	6.75	7.50	7.50	8.00	8.10	7.36	7.36	7.36
Blacksmiths' helpers.....	6.25	7.00	6.80	7.09	6.97	6.16	6.16	6.16
Car repairers.....	6.50	7.00	7.06	7.43	7.39	6.96	6.96	6.96
Greasers, men.....	6.25	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Greasers, boys.....	3.65	3.65	3.85	4.07	4.05	5.36	5.36	5.36
Couplers, men.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Couplers, boys.....	3.65	3.65	3.85	4.07	4.05	5.36	5.36	5.36
Electricians.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Electrician's helpers.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Mine mechanics.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Mine mechanic's helpers.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Machinists.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Machinist's helpers.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Armature winders.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Teamsters.....	6.50	7.00	7.00	7.70	7.68	5.76	5.76	5.76
Cart drivers.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Carpenter foremen.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Carpenters.....	6.00	6.50	6.50	6.70	6.48	5.36	5.36	5.36
Floating gang.....	6.25	6.50	6.50	6.70	6.48	5.36	5.36	5.36

## Anthracite Mine Workers Make Big Demand

AT a conference between anthracite mine workers and operators at the office of the Philadelphia & Reading Coal & Iron Co. on Oct. 26, the United Mine Workers of America on behalf of the employees at the anthracite mines made the following eight demands:

(1) Contract rates in the anthracite region should be increased an additional 13 per cent in order that the total increase may reach 31 per cent, which was the average increase received by the tonnage miners in the bituminous regions as a result of the award of the President's Bituminous Coal Commission.

(2) The minimum day rate should be more equitably fixed so as to conform to the amount of wages necessary to support an American family in comfort and decency. Equity would dictate that the minimum wage should not be less than \$6 per eight-hour day.

(3) All classes of labor receiving rates in excess of the minimum rate in effect previous to the agreement of Sept. 2, 1920, should receive the same increase as applied on the minimum

rate, in order that the differentials between the various classes of labor shall be maintained.

(4) The hourly rates of those receiving less than the minimum \$1.545 should be increased to the same percentage or flat amount as that received by other employees.

(5) The rates paid to consideration miners should be increased an additional 14 per cent in order that they may receive the average increase of 31 per cent as provided for in the above paragraph concerning contract increase.

(6) Contract miners' laborers and consideration miners' laborers should receive the same increase per day as given to inside day men, with provision for the operators to assume responsibility for the increase above the percentage amount given to the contract miner. Contract miners' laborers to receive the full increase on their total rate of earnings received by them previous to the agreement of Sept. 2, 1920.

(7) Monthly men and men on a shift should receive the same increase as provided for those receiving above the minimum rate.

(8) Men working in excess of the eight-hour day should have their work day readjusted to the eight-hour basis.

The demands were received by the operators "without discussion." They promised they would be placed before other executives and that another conference would be held in Philadelphia, Friday, Nov. 5. The operators were W. J. Richards, president of the Philadelphia & Reading Coal & Iron Co.; S. D. Warriner, president of the Lehigh Coal & Navigation Co.; C. F. Huber, president, Lehigh & Wilkes-Barre Coal Co., and Frank H. Hemmelwright, vice-president of the Temple Coal Co., Scranton, Pa.

The meeting, which occurred on Nov. 5 and 6, as scheduled, was without result. The mine workers declared that the whole wage contract was open for consideration. The operators announced that inequalities within the contract alone were mentioned and that the differences between anthracite and bituminous wages were not an issue. The mine workers declared virtually that if the President's telegram did not say anything about the matter it should have done so. Did they not ask the President to include this matter in the scope of the inquiry? Another meeting is to be held today, and if this meeting does not have a more successful issue the mine workers will ask the President to write another telegram, which they hope will induce the operators to discuss every complaint of the mine workers.

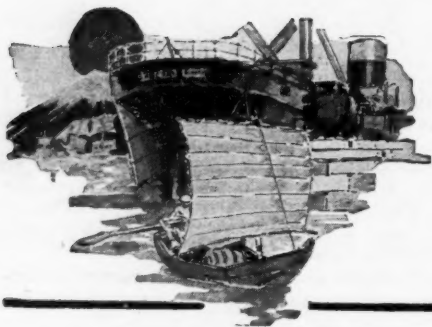
## Calder Committee on Reconstruction Will Hold Hearings in the West

HEARINGS will be held by Senator Calder's Committee on Reconstruction in all important cities in the West and Middle West this month. It is understood that the itinerary includes a meeting in Cleveland, Nov. 8 and 9; Chicago, the 10th; Des Moines, the 12th; Omaha, the 13th; Denver, the 15th; Kansas City, the 17th; New Orleans, the 20th; Birmingham, the 22nd, and again in New York on the 24th. It is reported that those interested in the building industries will be heard and that special attention will be given to the subjects of coal and transportation. This series of conferences over the country will enable Senator Calder to enter the new Congress in December with the most up-to-date information on the subject of reconstruction, on which he is now one of the recognized authorities.

## Missouri Operators to Fill Urgent Needs At Regular Circular Rates

ARRANGEMENTS have been made whereby all urgent needs for coal in southeast Missouri, and especially on the Missouri Pacific R.R., will be taken care of by the Franklin and Williamson County coal operators at their regular circular prices. These operators are nine-tenths of the operators in these fields and are not to be confused with the few who are asking the extreme prices. These shipments are for actual current needs, steam and domestic.

In making application consumers are advised to state the size that they need, approximately urgent tonnage, or orders on hand, from whom they have been buying, or with whom they have orders, and any reasons they may know as to why they are not getting coal. They also must state if willing to have coal shipped C.O.D. if operator thinks it necessary.



## Foreign Markets and Export News



### Union Recognition Is Urged in Spain

Recognition of the miners' syndicate of Spain by employers has been proposed by Commissioner Palacios, who was sent by the Government into the Rio Tinto district to seek a solution to the miners' strike there. He also suggests that the employers make working contracts with the miners directly and that a definite pension system be established.

Other provisions of the proposed settlement are indemnification of the men for time lost during the strike and a wage increase of one peseta daily over the amount paid before the strike. Measures are further recommended to permit the men to be represented in all social institutions of the district, including co-operative stores, medical service, a pension scheme and educational establishments.

### Silesia Coal Production Shows Great Decline

The report of Oberschlesische Berg und Huettenmaennische Verein, E. V., covering the year 1919, shows that in 1919 there were 63 anthracite mines operating in Upper Silesia, wherein 1,235 steam hoist engines were used and 388 electric motors were in use, as against 405 in the preceding year.

There was 35 per cent less coal produced in the mines in 1919 than in the previous year; 21,204,043 tons of coal were shipped from these mines in 1919, as against 36,113,360 tons in 1918 and 40,337,215 tons in 1913.

### Spain Unable to Move Coal

The serious danger of a lack of coal in the cities of Spain during the coming winter is the subject of an editorial article in the *Imparcial*, of Madrid, which blames the authorities for neglecting the development of the railroad transportation system. The newspaper says the Austrian coal fields alone are capable of supplying the 7,000,000 tons needed for Spanish consumption, but that it is useless for them to produce coal when the transportation conditions make it impossible to carry the coal from the mines.

The *Imparcial* calls upon the government to take the question in hand immediately, as otherwise much suffering will ensue, especially when the season of snows begins in the northern mountain ranges.

### Turkey Favors American Coal

Prior to the war the coal market of Constantinople, according to Trade Commissioner George Wythe, was controlled by Great Britain. At that time Cardiff coal was best known and most in demand. Belgian, German, and Russian coal also was known and used to some extent.

Turkish coal is of a poor grade and because of the great amount of sulphur in it was not used in any quantity for bunkering purposes.

Shortly after the Armistice, when England imposed an embargo, local importers began to look to America for coal.

American exporters have been shipping in Pocahontas screened coal, and it has in most cases given satisfaction and is becoming better and more favorably known by the local consumers.

At the present time the consumption of American coal is estimated from 8,000 to 10,000 tons per month, costing from \$35 to \$42 per ton c.i.f. Constantinople. American coal compares so favorably with the English coal and is so superior to the Turkish product that the consumer is

gradually ordering more through local importers or importing agencies.

In the majority of cases American exporters demand payment in New York in full upon completion of loading. In some instances local importers have secured through London five or six months' credit to finance their coal purchases in the United States. Importers who complained in the past about the complexity of the banking situation now express their satisfaction at the establishment of an American bank in Constantinople.

### Average Daily Coal Receipts at Italian Ports in Vessels Controlled by Italian Government

	(In Metric Tons)			
	May	June	July	August
Civitavecchia	1,062	1,300	775	1,068
Torre Annunziata	1,032	1,261	1,041	1,174
Naples	1,066	1,163	1,178	1,253
Leghorn	1,127	1,149	1,151	1,181
Trieste		1,002	926	1,571
Palermo	1,060	992	739	.....
Spezia		978	1,175	.....
Savona	1,005	932	934	1,168
Venice	784	830	789	692
Brindisi	970	792	840	802
Ancona	845	772	775	794
Messina		732	1,159	731
Genoa	886	676	724	1,105
Catania			754	.....
Reggio Calabria			547	575
Bari			504	.....
Taranto				775
Cagliari				610
				527

### French Miners Ask 500 Per Cent Wage Increase

The French Government has arranged an agreement with the mine employers to meet representatives of the French National Federation of Miners in an effort to avert the threatened strike for enforcing the men's demands for higher wages and nationalization of the mines, it was reported in Paris Nov. 7.

The men are demanding that the maximum pre-war scale be multiplied by five, as the cost of living, they represent, has been increased more than six-fold.

The federation represents all the underground workers in the coal and other mines and in the quarries.

### German Coal Production in the Ruhr District During September

The coal production of the Ruhr district in September was 7,590,000 tons, the production in the previous month 7,290,000 tons. The monthly production of this district in the years preceding the war was about 8,000,000 tons. The present production, therefore, is near the pre-war level.

### Strike Cripples British Shipping

British shipping, according to Consul General Robert P. Skinner, London, is greatly curtailed because of the strike, coastwise trade being hampered; outward cargoes are practically stopped, but bunkers are supplied for vessels bringing back food and essentials. The practical effect of regulations is the return to the system of directed voyages, recently abolished.

Cardiff reports 245 vessels in port, only 2 loading; 1,500 coal trimmers out of employment; bunkering entirely ceased, shipments of export coal being delivered to inland destinations. Most shipping is lying idle throughout the Kingdom; unemployment among seamen and dock labor is becoming acute; seamen blame miners for unemployment. Southampton reports cross-channel service curtailed, channel island service now being once a week.



## British Miners After Vote in Favor of Strike Return to Work

**T**HOUGH the report of the executive committee of the Miners' Federation of Great Britain on Nov. 3 showed that there was a majority against the acceptance of the settlement of the general mine strike, the mine executives issued notices urging the men to return to work with the least possible delay, for under the rules of the Federation a two-thirds majority is needed for the continuance of the strike. The majority against a settlement was quite small, only 8,450. This is insignificant as compared with the large number of mine workers—nearly 700,000.

One man in four failed to vote. In sixteen districts the ballot proved favorable to the settlement, but the majorities in Lancashire, South Wales, Nottinghamshire and the Forest of Dean were so large that they dwarfed the small contrary majorities of the sixteen areas. The leaders of the South Wales and Lancashire districts sought to have the strike continued. They urged that the rule requiring a two-thirds majority did not apply in this case, but with that point of view the representatives of the other districts showed little sympathy. The strike began on Oct. 16, and completely closed the mines from that date till Nov. 3. On the day previous, when the miners were balloting on the settlement, the miners in the Charleroi district of southern Belgium went out on strike.

Production lost because of the British strike, which actually shut down the mines for three weeks, is estimated at 13,000,000 tons.

## Coal Produced, by Districts, During First Nine Months of 1920

**O**F THE coal fields of the United States those in which demand presses most persistently on the heels of supply are the northern and middle Appalachians, comprising the States of Pennsylvania, Ohio, West Virginia, Maryland, Virginia and eastern Kentucky. Out of this area must be supplied not only the requirements of the industrial Northeast but also the great bulk of the exports both overseas and to Canada, the rail and water movement to New England, and the coal shipped via the Lakes to the Northwest. The experience of the war years and of the present coal year as well indicates that when a problem of distribution exists anywhere in the country it is likely to be in this northern and middle Appalachian region. Nor is this surprising in view of the fact that the region contributes from 60 to 63 per cent of the country's total output.

The Geological Survey, according to F. G. Tryon in his last weekly report, is now in a position to publish weekly statistics of the production in this critical region. As shown in the following table, the output in January, 1920, was 27,620,000 net tons, practically equal to the monthly average for 1917, and within one and a half million tons of the 1918

PRODUCTION OF BITUMINOUS COAL ON THE NORTHERN AND MIDDLE APPALACHIAN REGION\*  
(In net tons)

1917 monthly average.....	27,665,000	1920:	
1918 monthly average.....	29,151,000	June.....	26,730,000
1919 monthly average.....	23,940,000	July.....	28,170,000
1920:		August.....	30,750,000
January.....	27,620,000	September.....	30,230,000
February.....	22,350,000	Week Ended:	
March.....	27,020,000	Oct. 2.....	6,775,000
April.....	22,730,000	Oct. 9.....	7,275,000
May.....	23,400,000	Oct. 16.....	7,185,000
		Oct. 23.....	7,225,000

\* Figures for 1919 and 1920, subject to revision.

average. The effect of the switchmen's strike may be seen in the output for April, which dropped to 22,730,000 tons.

Since then there has been a gradual recovery, reaching in August and September a total of over 30,000,000 tons per month.

Production during October has averaged well above 7,000,000 tons per week, the indications being that the output for the month of October will again exceed 30,000,000 tons and will perhaps reach 30,800,000 tons.

In the following tables are given the best estimates which can now be made by the Geological Survey on the production of coal, by states, in the first nine months of 1920. As the estimates are based on railroad shipments it is sometimes difficult to apportion the tonnage of a road originating coal in more than one state, and the figures are therefore presented as tentative and subject to revision.

It will be seen that of the five major groups of fields shown, the Northeast and the Mountain-Northwest are farthest behind in comparison with the war years 1917 and 1918. Production in the Northeast has been at a rate equivalent to 91 per cent of the 1918 rate, as against 97 per cent for the Eastern Interior, 94 per cent for the Western Interior and southern Appalachians, and 92 per cent for the Mountain-Northwestern group.

PRODUCTION OF SOFT COAL, BY GROUPS OF STATES, 1917-1920  
(In thousands of net tons)

Section	First Nine Months of 1920	Year 1920 at Same Rate as First Nine Months	1919	1918	1917
Northeast a.....	239,236	318,984	288,250	351,365	33,440
Southern Appalachian b..	18,499	24,672	20,420	26,083	26,381
Eastern Interior c.....	94,689	126,252	94,600	130,768	122,953
Western Interior d.....	21,763	29,016	22,590	30,724	30,708
Mountain States and Northwest e.....	27,885	37,176	32,090	40,341	38,212
Total f.....	402,072	536,100	457,950	579,281	551,694

(a) Michigan, Pennsylvania, Ohio, West Virginia, Maryland, Eastern Kentucky and Virginia. (b) Alabama, Georgia and Tennessee. (c) Illinois, Indiana, and western Kentucky. (d) Iowa, Kansas, Missouri, Oklahoma, Arkansas and Texas. (e) Colorado, New Mexico, Utah, Wyoming, Montana, North Dakota and Washington. (f) Alaska, California, Idaho, North Carolina, Oregon and South Dakota not included.

## Refuses to Advance Lambert Run Case; Definition of Coal Cars Modified

**E**VENTS bearing on the coal industry have happened thick and fast in Washington during the last week. Following are some of those of most significance:

The U. S. Supreme Court on Monday, Nov. 8, declined to advance for early hearing the case of the Lambert Run Coal Co. vs. the Baltimore & Ohio R.R., involving assigned cars.

On Saturday, Nov. 6, the Interstate Commerce Commission released about 25,000 cars from coal transportation by amending Service Order No. 20 to read: "The phrase coal cars as used in this order shall not include or embrace gondola cars with solid 'fixed' sides and solid 'fixed' flat bottoms, having sides 42 inches or less in height, inside measurements."

For the third time within a week, representatives of public utilities made a determined plea on Monday for assigned cars. Apparently the Interstate Commerce Commission continues to regard the situation as insufficient to revoke Service Order No. 21. The utilities asserted that they were receiving less than 60 per cent on their contracts with a large number of plants operating on meager daily requirements. The approach of winter with short reserves of coal, it was said, makes likely numerous cessations on the part of public utilities. The co-operative committee, composed of representatives of railroads, operators and utilities, is not meeting the situation, the commission was told.

Attorney General Palmer, instead of attending the hearing at Indianapolis before Judge Anderson in the coal cases, appeared on Monday in the U. S. Supreme Court in his usual seat, to hear decisions announced by the court, expecting decisions in the Lever law and other cases in which the Government is interested. The court, however, did not announce a decision in the Lever law case.

## Wentz Defends Priority Orders at Calder Hearing

Ignoring of Operators' Early Requests for Increased Transportation Facilities Caused Acute Situation—New York Utilities Accused of Selfishness in Asking Assigned Cars—Secretary Tumulty Denies Influencing Commerce Commission

SENATOR CALDER'S position on the coal question was made quite clear in the hearing in New York City on Nov. 4 of the Senate Committee on Reconstruction, at which time Colonel Wentz, president of the National Coal Association, was the principal and only witness. Senator Calder inferred that the coal operators, railroad officials and the White House had been running the coal business, influencing priority orders during a period when transportation was denied to all industries and coal contracts had been broken on account of these priority orders. He said that from evidence submitted to the Reconstruction Committee the prices of coal had been outrageously high, the railroads of New England, for instance, having had to make an outlay of \$18,000,000 extra per year, and the gas users of Massachusetts at the rate of \$5,700,000 extra per year, and, according to the Senator, nobody has benefited by the issuance of these priority orders except the gentlemen who made or influenced their making. Coal exports have not been reduced, idle shipping has not been used and the Senator said it has been possible, according to the testimony of Mr. Willard, for anyone to buy a car of coal and ship it to a port and hold it there indefinitely for speculation by paying the regular public charge of \$2 per day. He referred also to the announced intention of the bituminous coal operators, anthracite coal operators, wholesalers and retailers to get together to influence legislation and to prevent the issuance of contradictory figures and statements.

### COLONEL WENTZ RESENTS "INFLUENCE" CHARGE

To the charge that the coal operators, railroads and the White House had been working together in handling the coal situation and had been influencing the issuance of service orders in order to excuse coal operators from fulfillment of their contracts Colonel Wentz said "I do not feel that it is a fair inference to make from the situation because I know neither Mr. Tumulty nor Mr. Alvord [the representative of Judge Payne, Director General of Railroads], nor the Commerce Commission had taken any action either directly or indirectly which would bring about or excuse the operators from fulfilling their contracts, and such an inference is unfair and improper."

Colonel Wentz further stated that he knew of no reason why the facts in connection with the coal industry should not be correctly and properly stated to any investigating body and he gave as his opinion that if an arrangement could be made which would bring the truth about the situation as it exists properly to the attention of any existing body, that would be a step in the right direction. This statement was in answer to Senator Calder's remarks regarding the proposed coalition of the operators, jobbers and retailers.

Senator Calder believes undoubtedly there are a number of honest coal operators and he will not assume that the great majority of them are not honest. In the course of the hearing he said: "I would assume that the great majority of them are honest, but a portion of them, by their manipulations of the shortage of cars and fuels, have left the impression in the mind of the public that they have profited abnormally this past year, and you, gentlemen, who are responsible men of the operators' association, have got your work cut out for you to convince the public that it has not been so, and that you and other honest men of the organization have not profited abnormally in your business." He characterized the situation as very serious. He said that the country is aroused by it almost as much as it was against the rent profiteers, and if coal should be difficult to get this winter and prices unusually high, almost anything may happen.

"When coal has been as high as \$12 to \$15 a ton at the mines, compared with \$2.50 four or five years ago," Senator

Calder said, "it is pretty hard to convince the public, when they have also added knowledge that coal operators in conjunction with the railroads have been responsible for the language of the priority orders, that there is not some scheme by which somebody has been doing these things with the knowledge of the authorities."

In reply to the inferences contained in Senator Calder's remarks Colonel Wentz reviewed the situation from early spring, stating that when there came a marked shortage of coal the operators asked that enough transportation be afforded to restore the normal rate of production, but no attention was paid to their request or to the figures the operators presented. It was only when the Governors, Senators and Congressmen from New England and the Northwest came to Washington and to the White House and said that unless coal was shipped to them in larger volume than they were at that time getting these districts would freeze this winter, that the White House naturally became disturbed and other governmental officers in Washington became disturbed, and finally the situation was recognized as acute. He stated that at this time he was told that the appointment of a Fuel Administrator was contemplated for the purpose of re-establishing Federal control of the industry and that, realizing as he did that no Fuel Administrator, no matter how able he might be, and even though he had sufficient funds, could gather together an organization in time to meet the situation, he took steps to have the operators meet the situation immediately.

When Senator Calder remarked that a Fuel Administrator might have fixed prices he replied that it took Dr. Garfield six months to work out a proper and equitable set of mine prices that would stimulate rather than throttle production and that under the program that had been adopted without a Fuel Administrator prices had now decreased to a point where he predicted that spot prices would be below contract prices by Dec. 1.

### DOCK MEN DISSATISFIED WITH PRIORITY RESULT

Colonel Wentz explained the persistent efforts of the New York public utilities for assigned cars as resulting from their desire to have 100-per cent delivery on their contracts, irrespective of car supply and without regard to the delivery of coal to any other consumers, and he indicated that he did not believe the Interstate Commerce Commission would permit such discrimination. The Senate Committee read a statement from Mr. Groverman, secretary of the Northwest Coal Dock Operators' Association, to the effect that Lake priority orders had not worked out to their satisfaction and that they were short 25 per cent of the coal they needed. In answer to this Senator Calder was told that the dock people represent special interests who prefer to sell to the railroads of the Northwest and do not represent the whole Northwest. After the first three weeks, which were consumed in getting things in operation, Service Order No. 10 was fully effective and so much coal was diverted to the Lakes that a condition of congestion at lower Lake ports was approaching. The commission called upon the Governors and others of the Northwest for reasons why the Lake order should not be suspended and, no reply being forthcoming, the commission suspended the order.

Considerable stress was laid by Senator Calder on the subject of fulfillment of contracts and he was particularly anxious to learn why coal contracts had not been fulfilled. He said that the committee had received information that 90 per cent of the gas and electric companies of Massachusetts made contracts last spring for their year's supply at prices ranging from \$3.50 to \$4 per ton, but had been obliged to buy 50 per cent of their requirements at spot prices ranging from \$14 to \$15.

In a statement issued from Washington on Nov. 6, Colonel



Wentz denounced as false the statement of Franklin T. Miller, in the New York papers, that the bituminous coal operators had used, or attempted to use, persuasion with Joseph P. Tumulty, secretary to the President, to influence the Interstate Commerce Commission to issue priority orders so that operators could "dodge" contracts at lower prices than those prevailing in the open market, during the coal shortage.

"Any such statement is absolutely unfounded," said Colonel Wentz. "The operators of the National Coal Association, through their officers, kept Mr. Tumulty informed as to developments in the effort to overcome the serious coal shortage. That is all they sought to do and all that was done. Mr. Miller's insinuations are baseless and utterly false."

Mr. Tumulty, when his attention was brought to these statements, said "I never at any time conferred with or made suggestions to the members of the commission with reference to shipments of coal. There was no politics at any time in the matter of priority shipments of coal. I acted upon the representations made to the President which came from Republican Governors from all parts of the country. Mr. Alvord, acting for Judge Payne, advised the President with reference to the handling of this difficult situation."

### Lifting of All Service Orders by End of Month Is Forecast

**B**EFORE Dec. 1, it is believed, the Interstate Commerce Commission will have cancelled all of its service orders. Exceptions may be the order of April 15, giving railroads authority to use assigned cars, and Service Order No. 18, which defines the commission's position in the matter of the extent of time that a contract is intended to cover. As the commission has had an exceptional opportunity during the last six months to become familiar with the evils and abuses arising from the practice of assigning cars, none will be surprised if these orders go down with the rest.

The last week has been characterized chiefly by the great pressure exerted by industries other than coal to obtain authority to use open-top cars. There are evidences that the commission regards these requests in a sympathetic manner. It is thought probable that an alteration will be made in Service Order No. 20, so as to provide a new dimension as to height of side of coal cars. A change of four inches in this dimension will release more than 20,000 open-top cars. The steel and constructional industries, along with the road builders, have been pressing this matter in the most active manner possible.

The consensus of opinion in Washington is that the slump in prices will not continue to disastrously low levels. Prices have already reached a point where consumers in no immediate need of coal are making contracts.

It is the position of the National Coal Association that the service orders should be continued until the deficit in coal production is made up. The serious shortage has been met by deliveries of coal in installments. This is especially true in the case of domestic coal. It has been an almost universal practice on the part of retailers to deliver only a small portion of customers' orders. For that reason it is regarded as advisable to maintain the present rate of production and distribution for some time to come.

It had been expected that, following the dissemination, to small way stations of the cars which were in the Lake trade, there would be considerable delay in getting the cars back to the mine owing to the longer time which would be required for their unloading. This apparently is not happening, for the need for coal is so great that retailers are unloading cars with unprecedented rapidity.

Another formal request was made last week by public utilities for the use of assigned cars. The commission made it clear that it does not regard the public-utility situation such as to justify the resort to assigned cars. The two committees looking after gas and electric utilities and the non-franchised utilities are continuing to meet emergency needs through co-operation between the operators and the railroads.

### Judge Anderson Insists on Bringing Mine Workers and Operators to Trial

**J**UDGE A. B. ANDERSON, of the Federal court at Indianapolis, Ind., notified A. Mitchell Palmer, Attorney General, Nov. 4 that an investigation would be made in open court Nov. 8 of the Attorney General's connection with the conspiracy case against 125 bituminous coal operators and officials of the United Mine Workers of America which has been set for trial on that date. While no further information as to the reason for the investigation was given by Judge Anderson, it is understood that the investigation will proceed.

The investigation may also include an inquiry as to the statements made recently by the Attorney General that an agreement had been reached with Judge Anderson to the effect that no evidence arising from the miners' strike last November and the resultant court proceedings should be used in the conspiracy case brought against the miners and operators. It is expected that in order to arrive at the facts regarding a conference between Mr. Palmer, Mr. Simms and other officials in Judge Anderson's chambers last December, the court will place Mr. Simms, Mr. Slack, Mr. Van Nuys and possibly others on the witness stand to testify as to what actually took place in the conference.

"I am going to find out if an Attorney General has the power to suppress evidence in a contempt case in this court," said Judge Anderson in reply to a statement by the Attorney General that he did not know on what ground his connection with the conspiracy case against miners and operators is to be investigated.

On Monday, Nov. 8, C. B. Ames, former chief assistant to Mr. Palmer, testified in behalf of the Attorney General that the Government's orders had been misunderstood and that it was the intention to eliminate only the evidence that had been the basis of the contempt proceedings prior to the settlement of the strike, a year ago. Mr. Ames pointed out that the conspiracy charges now under trial were instituted at a date later than that covered by the alleged conspiracy that led up to the strike and that Mr. Palmer did not believe it fair to proceed criminally after having obtained the miners' compliance with the court order last December.

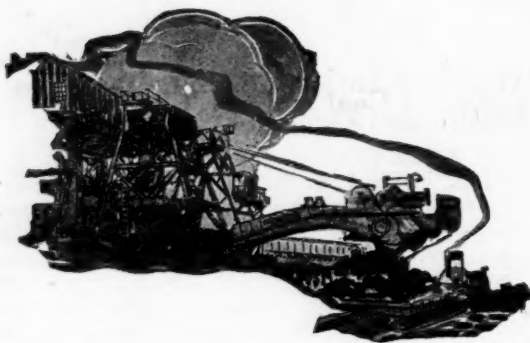
Judge Anderson stated that the Attorney General's conduct was "strangely close to the compounding of a felony" and also "dangerously near contempt of court." The court set Jan. 10, 1921, as the date for continuing the trial inasmuch as the Government's attorney advised him that the Government was not ready to proceed.

### Colorado Lignite Miners End "Vacation"

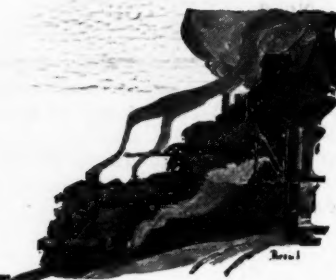
**F**IFTEEN hundred miners in the lignite fields of Colorado, waging an unsuccessful strike for recognition of the union based on a 20-per cent increase in wages and a working agreement, have returned to work after having been on a so-called vacation of ten days. Union leaders said they could carry on negotiations with the operators just as effectively with the men on duty. The operators intimate that threatened prosecution of the strikers by the State Industrial Commission for law violation and the fact that outside miners were gradually taking the places of the strikers forced the policy committee of the union to unwillingly end the walkout. Both sides will present their grievances before the Industrial Commission Nov. 15.

### Illinois Mine Workers Would Revise Scale

**P**ETITIONS are being mailed to every Illinois local of the United Mine Workers of America by John Watt, secretary of subdistrict No. 4. The petitions request that a special meeting be called to consider a revision of the wage scale and such a rewriting of the state constitution as will return all powers to the "rank and file" in the union. If they are signed by a sufficient number of locals, the meeting will be called. Authorization for the circulation of the petitions was obtained at a subdistrict convention held in Springfield in October.



# Production and the Market



## Weekly Review

**L**IQUIDATION in bituminous coal has begun as it has already progressed in textile and other industries in the last few months. The bottom has not been reached and prices on all except the very best coal from such fields as Pocahontas and Pittsburgh are certain to continue the downward movement. The abundance of transportation in recent weeks has brought more coal to consumers and has loosened up the so-called "frozen credits" in industries wherein delivery of products had been delayed.

### OPERATORS THREATENED WITH GOVERNMENT CONTROL

Senator Calder furnished the sensation of the week in his charge that the coal operators and the railroads had influenced the Interstate Commerce Commission, through the White House, in getting priority orders that enabled coal men to avoid filling low price contracts. The National Coal Association and Mr. Tumulty have both asserted that these insinuations are baseless and false. The situation that has developed in connection with Senator Calder's statements is of considerable importance because accompanied by the threat that if the coal operators do not themselves reduce the price of coal by Dec. 1, when Congress convenes, the Senator will introduce legislation to control the industry. In answer to the statement that the price of coal is now rapidly falling and has already touched the contract price level, Senator Calder has published the record of a sale by the Raleigh Smokeless to the Boston Elevated of a part cargo on Oct. 26 at more than \$12 per gross ton, f.o.b. mine.

Indications are that the Interstate Commerce Commission expects to go deeply into the alleged violations of its orders in connection with the use of open-top cars. Not only does it expect to ascertain whether graft existed in the furnishing of cars to certain consignees but it will probe into alleged abuses of the orders by public utilities and other consumers. The permits which have been issued also are to be closely scrutinized. It is alleged that many permits were raised and there are many sensational rumors as to the extent to which bribery was used during the period of greatest car shortage.

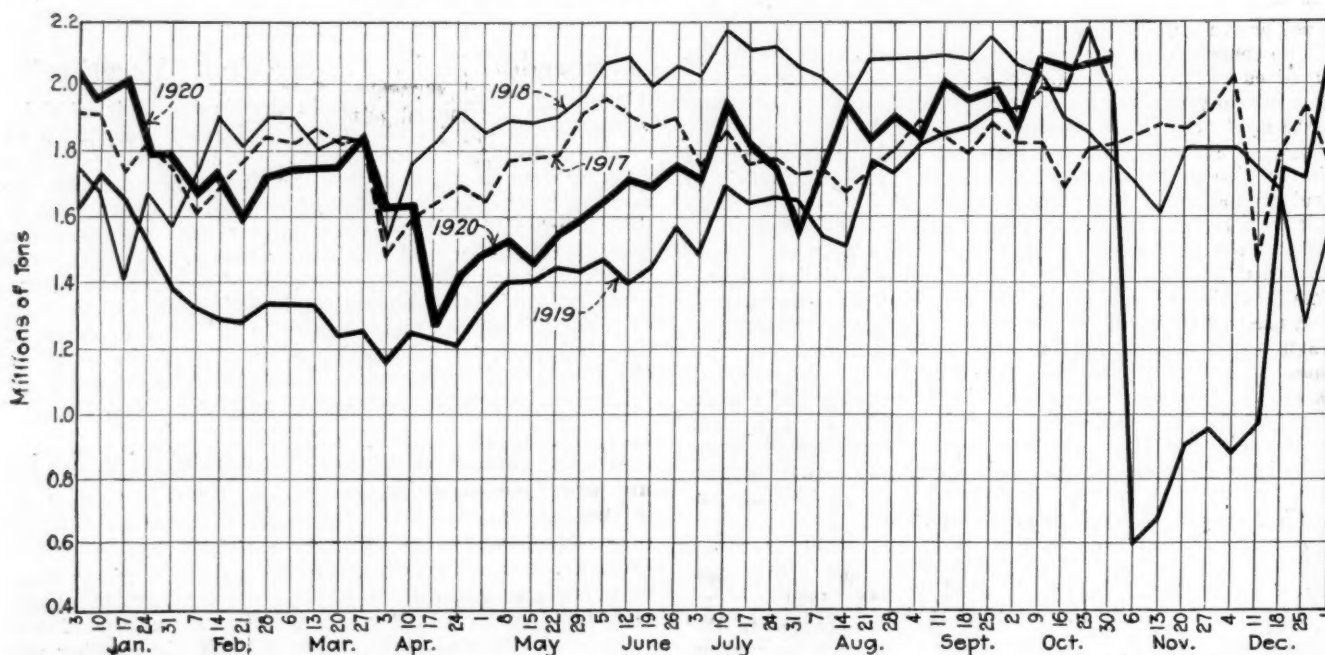
In view of better transportation and increased production, it is believed that the Interstate Commerce Commission will cancel, as of Dec. 1, the last ruling defining coal-car classification and providing priority for open-top equipment for use in the industry.

### BITUMINOUS

Production during the week ended Oct. 30 rose to the maximum for the year. According to the Geological Survey, the total output is estimated at 12,338,000 net tons, an increase of 97,000 tons over the preceding week, which is the largest output attained in any one week since the Armistice, with the exception of a late week of October, 1919, just before the coal strike. The 1920 output is now only 7,000,000 tons behind that of 1917. Observance of religious holidays and election day had a decided effect on production for the week ended Nov. 6.

Transportation conditions are steadily improving. Gen-

Average Daily Production of Bituminous Coal\*



\*From weekly report of Geological Survey.



### Lake Coal Dumped Season to Nov. 6

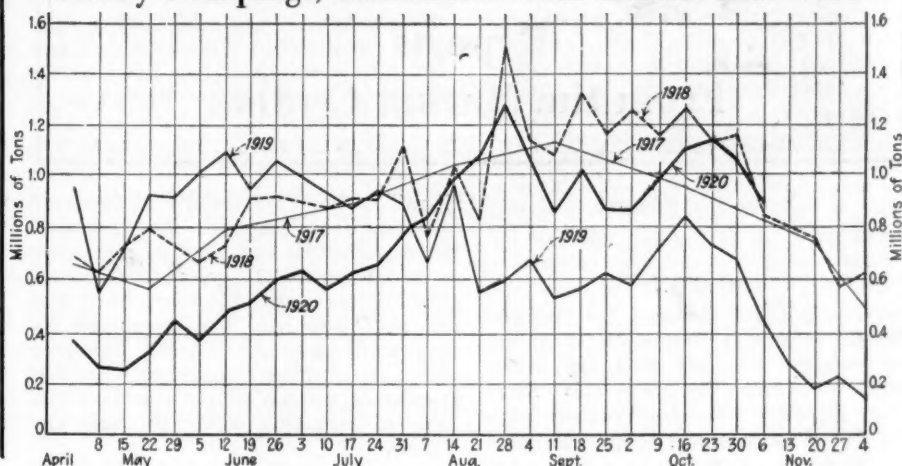
(NET TONS)

1919	1920
Total ....22,066,352	20,893,001

### Week of Nov. 6, 1920

Cargo .....	807,594
Fuel .....	42,132
Total .....	849,726

### Weekly Dumpings, Bituminous Coal at Lake Erie Ports



eral increase is noted in car supply. The northern Appalachian placement was reported as nearly adequate, with the exception of the Fairmont section, where only a 50-per cent supply was available. The improvement was more noticeable on the B. & O. The supply fluctuated in the middle Appalachian region, all fields reporting a slight decrease. Midwest districts had about 75 per cent placement with indication of steady improvement. Kentucky operations are still crippled by inadequate supply, which during the week was running 26 per cent in the western section and even less in the southeastern part of the state. Alabama mines are obtaining all the empties necessary to load tonnage available in the strike zone.

Labor losses are still on the decline. The men are more disposed to give efficient service, and record production is resulting. Some labor shortage, however, is reported in the Winding Gulf and Tug River sections of West Virginia; eastern Ohio miners are working only in half-hearted fashion since the outlaw strike; Alabama miners have practically all returned, but are working irregularly. Colorado lignite workers who recently went on strike are returning. The Colorado State Industrial Commission states that a majority of the men did not vote for a strike and has set Nov. 15 for a hearing of union leaders.

#### BELIEVE END OF DECLINE HAS NOT BEEN REACHED

Further declines in spot prices occurred during the last week of October. Railroad fuel is still in good demand, but purchases for industrial consumption are at a low ebb, apparently in the belief that the end of the decline has not yet been reached. Domestic demand is lowered by the unseasonable weather which has prevailed lately and also because of the absorption of considerable tonnage released by the suspension of the Lakes priority order.

Fairmont quotations are lower—line trade \$6, export \$10 and Lakes \$5@\$.55. Pittsburgh district spot prices range \$5@\$.7, with new contract figures seen at \$4@\$.45. Pittsburgh No. 8 is down, \$5.25@\$.6. The Midwest section reports a slump in all demands with southern Illinois \$5.25@\$.6; Springfield \$4.25@\$.5; northern Illinois \$4.75@\$.5. Indiana prices inside the state generally conform to rulings of the state commission; outside deliveries are, Fourth Vein \$5@\$.5.75 and Fifth Vein \$4.75@\$.5.25. Western Kentucky steam is firm, \$5@\$.6.50, with a brisk demand caused by lowered production and territory opened up by new competitive rates. Boston market is much weaker with practically no steam demand of any volume; Pool 10, 11 and 14, \$5.50@\$.6.25, Pool 71, \$7@\$.7.50. The New York market broke sharply, and the export demand also fell off; Pools 1, 9 and 71, \$8@\$.9; Pool 10, \$6.50@\$.7.50; Pool 11, \$5.75@\$.6.50; Pool 34, \$6@\$.7; Pool 44, \$5.50@\$.6; Pool 18 and unclassified coals, \$5@\$.6. A like slump is reported in the Philadelphia and Baltimore markets, where spot quotations in some instances are running even less than prices on contract for December and January deliveries. The Detroit market is off \$2 on steam grades with Hocking \$6 and West Virginia \$7. Birmingham reports steam trade as

barely absorbing spot tonnage, prices weakening to \$4.25@\$.5 for medium coals, and \$5.50@\$.7 for the best grades.

According to the Geological Survey, the coal handled over Tidewater piers for the week ended Oct. 30 amounted to 1,207,000 net tons, or a decrease of 168,000 tons when compared with the preceding week. Exports declined slightly, as did New England and the bunker trade. The tonnage handled was destined as follows:

Destination	New York	Philadelphia	Baltimore	Hampton Roads	Charleston	Total
Coastwise to						
New England.....	60,000	11,000	28,000	66,000	.....	165,000
Exports.....	100,000	174,000	361,000	.....	5,000	640,000
Bunker.....	74,000	20,000	17,000	114,000	.....	225,000
Inside capes.....	25,000	.....	23,000	6,000	.....	54,000
Other tonnage.....	122,000	.....	.....	.....	1,000	123,000
Total.....	256,000	156,000	242,000	547,000	6,000	1,207,000

For the first time in several weeks the all-rail movement to New England fell below the 5,000-car mark, when in the week ended Oct. 30 the movement through the five rail gateways numbered 4,854 cars.

Lake dumpings for the week ended Nov. 6 declined to 849,726 tons as compared with 1,081,275 for the preceding week. Docks are well up on steam sizes and are taking mostly lump shipments on contracts, generally refusing to pay the higher current prices.

#### ANTHRACITE

Production during the last week of October amounted to 1,696,000 net tons or a decrease of 11.5 per cent as compared with the preceding week. The decrease is attributed to a labor shortage caused by the men commemorating the settlement of the great anthracite strike of 1902 by observing the Mitchell day holiday of Oct. 29. The better rate of production that has been maintained recently has caused a less panicky demand for domestic, although the supply is still far short of tonnage requested by dealers. Steam trade continues very brisk.

Miners are showing some uneasiness about the results of the recent wage hearing in Philadelphia. No announcement has been made, although some is expected from the meeting scheduled Nov. 11. The Interstate Commerce Commission has taken under advisement the matter of establishing priorities for domestic shipments to the District of Columbia and New York City. The matter has also been placed before the Anthracite Bureau in an endeavor to secure the assignment of tonnage to these points. The fair price movement throughout the country has been adopted by representative anthracite operators who have formed a committee to discourage unwise practices.

#### COKE

Beehive coke production showed an increase of 8,000 tons over the preceding week when 399,000 tons were produced the last week in October. Coke prices continue their decline in the face of a sluggish market, although recession in the past week was not so sharp as that characterizing the preceding week. Connellsville spot quotations are: Furnace, \$9; foundry, \$11@\$.12.

## Reports From the Market Centers

### New England

#### BOSTON

*Extremely Light Demand for Steam—Gas Coals Also a Drag—Prices Slump—Coastwise Receipts Fall Off Materially—Anthracite Domestic Sizes Come Forward Slowly—Weather Helping the Situation—No Spot Demand for Steam Sizes.*

**Bituminous**—The current spot market is lifeless. Aside from a few straggling buyers whose requirements are exceptional there is no present interest here in prices. It is now conceded that New England steam-users have in stock 90@120 days supply at the present rate of consumption. This is based upon the present general curtailment in most lines of manufacturing.

There is no prospect today that business will be stimulated within the 3 or 4 months for which steam coal is now in hand. There are doubtless a great many individual plants whose reserve is less than 4 months, but in such cases continuing deliveries are being made on contract and will be made through the season to April 1.

With the termination of certain priorities in other directions shipments of high volatiles are coming forward in better volume on contracts. Prices receded more than \$2 within a week, and new low levels are heard from day to day. In the Fairmont district contracts have been made for railroad fuel at less than \$5 per net ton for delivery to April 1 and there have been a few sales at less than that for spot shipment. The low sulphur grades, however, are being maintained at around \$6.50.

On certain medium grades from central Pennsylvania there have been offers of less than \$5 with counter offers from buyers down as low as \$4.25. There has been any quantity of fair grade coal, Pools 10, 11, 14, etc., at a range of \$5.50@ \$6.25, with Pool 71 hanging around \$7@ \$7.50. By water there has not been the corresponding decline in spot prices. Due largely to high tariffs all-rail the small tonnages available for inland distribution have been quietly absorbed on this contract basis of \$4.75 @ \$5. Plus charges these prices mean delivered on cars at Boston, Portland, or Providence a range of \$13@ \$14. Whether further slumps will take place in the all-rail market remains to be seen; it is evident, however that we are in for a dull market until there is some striking industrial change.

Coastwise shipments show a material falling off, as indeed does the movement through the Hudson River gateways

all-rail. There are occasional cases of demurrage on ships at the Hampton Roads terminals but they do not occur so frequently as 30 days ago. Car-supply is better on the Southern roads and the operators are less hampered by mandatory shipments West. In other words, the whole bituminous situation is clearing up and all the interests will have a breathing spell through the winter.

Current quotations on bituminous at wholesale range about as follows:

	Cambrias and Clearfields		Georges Creeks	
F.o.b. mines, per net ton	\$4.75@	6.25	\$5.25@	7.50
F.o.b. Philadelphia, per gross ton	7.95@	9.65	8.55@	11.00
F.o.b. New York, per gross tons	8.50@	10.15	9.00@	11.50

**Anthracite**—There continues general complaint of the extreme slowness with which shipments are being made. All the domestic sizes seem equally hard to secure and retailers in most communities are at their wits end to handle the public demand. In a few cities there are signs of an easier demand, but much depends upon the weather the next 30 days.

Sizes like No. 1 Buckwheat are in much less demand than a month ago. Steam sizes are only in very light demand. Shipments now going forward are on contracts in most cases, although the interest in patent stokers is observed to be growing.

### Tidewater

#### NEW YORK

*Bituminous Prices Break Sharply—Export Demand Declines—Anthracite Production Is Recovering—Domestic Situation Is Better—Steam Sizes in Good Demand.*

**Bituminous**—The market is experiencing quite a slump. It began about a week ago and has continued with increasing momentum during the present week. Early in the fall prices receded two or three dollars a ton in the course of several weeks; now they have gone down as much or more in about 10 days.

Several things have played a part in breaking the market. The suspension of the Lake priority order released tonnage for the Eastern trade and was perhaps the immediate cause of a surplus developing. Production in the seaboard territory has been increasing for weeks, while at the same time consumption was on the down grade.

This year the tendency has been to accumulate good-sized stocks, for until recently buyers were in a more or less panicky state of mind. But of late they

have adopted a waiting policy for lower prices. A great many consumers seem to have reached the same conclusion, for not only did demand fall off but a flood of cancellations made their appearance.

One other thing making for the fall is that many small operators have been running on spot orders. With no contracts on which to apply their tonnage they must now sell it from day to day at the best price obtainable, which results in all sorts of quotations being heard, varying as much as a dollar a ton.

The market may be quoted, roughly, as follows: Pools 1, 9 and 71, \$8@ \$9; Pool 10, \$6.50@ \$7.50; Pool 11, \$5.75@ \$6.50; Pool 34, \$6@ \$7; Pool 44, \$5.50@ \$6; Pool 18 and unclassified, \$5@ \$6.

A factor in depressing prices at Tidewater is the recent falling off in export demand, the bulk of the tonnage now moving on old orders and contracts.

**Anthracite**—After a series of holidays and semi-holidays which resulted in collieries being idle or short-handed for a week or so, production is again recovering. These shutdowns occur every year, but this year they came all together and at a time when demand for domestic sizes was much greater than usual.

The effects will be felt at Tide well into the next week, as there was a comparatively small tonnage shipped from the mines during the first half of this week, but the prevailing mild weather helped considerably and gave dealers an opportunity to catch up to some extent. Orders on the books represent a large tonnage but dealers state that they are mostly from consumers who already have some coal on hand. Those who had no coal at the beginning of the month were for the most part those who have been waiting for a particular size. Consumers who already have some coal on hand are anxious to secure more, and no doubt they have placed orders with two or more dealers in many cases. Duplication of orders is not much of a factor in the wholesale trade, for the reason that the companies and the large independent operators have opened very few new accounts this year. The retailer who is unable to secure his usual tonnage from his established source could not as a rule get an order accepted by any other producer selling at or near the circular price. Such extra tonnage as may have been obtained was bought from small independent operators at high prices—the smaller independents still being able to dispose of their output at prices ranging up to \$15.

Very few of the dealers in this city and vicinity are paying high premiums as most of them are getting company tonnage and some moderate priced independent coal sufficient to enable them to care for their regular trade.

Steam sizes, with the exception of barley, keep in good demand at prices that show little change. No. 1 buckwheat is quoted \$6@ \$6.50; rice, \$4@ \$4.50 and barley \$1.25@ \$2.25.



## PHILADELPHIA

*Anthracite Receipts at Low Ebb—Mild Weather Holds Down Consumption—Holidays Cut Production—Steam Sizes Ease Off—Bituminous Takes Sharp Drop—Consumers Are Buying Little—Freer Export Permits Expected—Production Near the Top.*

**Anthracite**—Receipts have been close to the zero point all week and the immediate outlook is not at all encouraging. Many mines have lost time due to the religious holiday last Friday running over into election day.

The companies report much restlessness among their men due to the discussion of the increased wage. It can be taken for granted if the increase is refused there will be trouble.

Even though the retailers are pressing their shippers for more coal, they will generally admit that it will not take a very heavy tonnage to satisfy them, especially in the face of the extremely mild weather so far this fall. There is no question that the tonnage lost by the three weeks lay-off of the miners has about been made up in this way, and with the cellars of thousands of consumers containing an entire winter's supply, some interests are freely predicting a break in the market by the first of the coming year.

One of the big shipping companies this week continued its process of equalizing prices as compared with other large producers. This time the price of egg coal was increased 15c. making the mine price per gross ton \$7.75. It also made a price of \$4.25 on buckwheat as compared to \$4.10 previously in effect.

There has been some easing in the steam trade and while the big companies are still pressed to meet their buckwheat obligations, the smaller concerns are finding it most difficult to exact the top premiums on this size. The price for individual buckwheat recently has been close to \$5. Rice is moving fairly well with the big shippers and moderately so with the independents. Barley is to be had freely, with very little likelihood of any strengthening over the \$2.25 price.

**Bituminous**—For a time during the past week it seemed as though the bottom had gone entirely out of the market. There was a great dearth of buying. Manufacturing interests seemed to take the stand that with prices falling it was better judgment to wait, particularly since they were not in urgent need.

With Pool 10 offered at \$7.50, the market is fast becoming favorable to the buyer. There was also plenty of Pool 11 at \$6@6.50. The real condition was shown by the fact that the high grade coals, such as Pools 1, 9 and 71 actually came upon the spot market, after having been practically unobtainable for a year or more. Some of the very best coals were offered at \$8.50. Under the classification of Pool 18 are many inferior fuels that in ordinary times rarely get on the market, and in an effort to move them, prices were

quoted from \$5.50 down to \$4, mines.

The above quotations are all for coal originating on the Pennsylvania R.R. Coal coming off the New York Central was inclined to sell a little less. As an instance, \$7 was freely quoted on Pool 10 originating on the N. Y. C. and for Pool 11 the price was \$6@6.25.

Fairmont coals also sold off. Pool 34 was \$6.50@7. Another indication of the softening market was to be found in an offering of screened coal in limited lots being quoted \$7.25, and slack at \$6@6.25.

Various explanations are offered for the change, the principal one being that Tide permits have so restricted movement over the piers that coal has jammed up and producers were compelled to sacrifice prices. It is a fact that the piers are pretty well cleaned up at this time and some people are predicting that prices will stiffen somewhat, as there are intimations that permits will be given more freely in a few days. The fact remains that production is well up and there is more than enough coal to go around.

## BALTIMORE

*Slow-Down Expected in Exports After Record-Making Month—Prices Fall Under 100 Per Cent Car Supply—Hard Coal Is Scarce and Dealers Are Appor-tioning.*

**Bituminous**—Reports at Tide show a distinct slow-down in the number of ships reporting and being loaded as compared with the recent record performance that made October the most exceptional month in the history of the export trade here.

During October there was loaded on foreign delivery account a total of 118 ships, carrying 653,762 tons of export and 39,567 tons of bunker fuel. This was a cargo excess of 159,854 tons above the best previous record, made in September. In August, 490,930 tons of export cargo coal was loaded, so that the total for three months sent to foreign ports reached the remarkable figure of 1,638,495 tons.

Many ships loading cargo coal here are taking fuel elsewhere for bunkers. The bunker business has been somewhat of a disappointment lately. Bunker prices have slumped to about \$13 a gross ton f.o.b. piers.

The fine car supply at present is a big factor in the cut in spot prices for line trade. Some of the regions are getting 100 per cent since the release of cars from the Northwest, and best coals such as run to Pools 9 and 71 are offering at \$7@8 a ton f.o.b. mines. Less desirable coals are running at \$5.50@6. This does not apply to contract in considerable amounts, the figure for less desirable coals for delivery over December and January being around \$7 and for best coals \$8.50@9.

**Anthracite**—While vastly aided by the continued mild weather, the hard coal situation is not entirely relieved. Under a general policy of dealers to deliver small lots only to customers without coal there has been a fairly

wide distribution. Still there are hundreds of homes without coal and some with only enough to last a week or more before more fuel will be needed.

Dealers say that producing interests, which had promised that November would see a big movement following the period of light deliveries, can not ship much for the balance of this month. The dealers are standing by their plan to buy only company or reasonably priced premium coal, and no one has followed the lead of one large company here which raised prices \$1.50 a ton to take care of coal bought at a fancy figure.

## Lake

## BUFFALO

*Bituminous Still Slumps—Prospect of Continued Weakness for Some Time—Consumers Hold Off—Cars Are Plentiful—Anthracite Scarce—Coke Declines Sharply.*

**Bituminous**—Decline in the price of bituminous coal continues. Consumers appear to have all they want and will no longer pay previous prices. Operators seek jobbers for orders, some of them signifying that they will accept any price that it offered.

The weather has favored light consumption right along till the surplus production seems likely to take care of winter heating without any stiffening of price.

Already the lowered price must be hitting the mines that have paid wages in excess of the union scale and the question is what they will do when another reduction takes place. It is not easy to say what bituminous prices are, but a leading jobber quotes \$8.50 for Youghiogheny gas coal, all sizes; \$7.50 for Pittsburgh and Allegheny Valley steam lump, \$6.50 for mine run and \$5.50 for slack; \$12 for Lilly smithing. Slack is mostly strippings and hard to get. Add to these prices \$2.36 on Allegheny Valley and \$2.51 for Pittsburgh and Youghiogheny as freight charges.

**Anthracite**—The demand for house coal is about as great as ever and the supply remains scant. The weather is favorably warm but the retailers are still pushed for deliveries. The Public Service Commission has ordered all natural gas out of furnaces that can burn coal, but considering the state of the weather and the gas supply it is not believed that this will always be insisted upon.

An effort is being made to meet immediate needs by delivering only a ton or two on an order. It will be nearly a month before the Lakes close and then coal will immediately become plentiful. This state of things promises to happen every fall unless some better summer system of delivery is adopted.

Anthracite prices to the curb are regularly \$13 for furnace sizes and \$13.25 for stove and chestnut. Independent operators are asking as high as \$17 at the mines.

**Lake**—Shipments for the week were 122,100 net tons, of which 73,100 cleared for Duluth and Superior, 15,100 for Milwaukee, 10,000 for Fort William, 7,500 for Escanaba, 6,900 for Chicago, 6,200 for Washburn, 2,500 for Marquette and 800 tons for the "Soo." The mining suspension cut down late receipts.

Freight rates remain at \$1.50 to the Soo, 85c. to Chicago, 75c. to Milwaukee and Escanaba, 60c. to Duluth, Fort William, Washburn and Marquette.

Shipments to Nov. 1 were 2,949,761 tons, as against 3,505,418 tons last season to the same date. October shipments were 537,000 tons, as against 664,400 tons in October last season.

**Coke**—The market has weakened faster than for bituminous coal. Jobbers find the supply about as scant as ever, with prices much reduced and still declining. The demand is light and very unsteady. Quotations at the ovens are \$15 for 72-hour Connellsville foundry, \$13.50 for 48-hour furnace and \$11 for offgrades and stock, with a moderate amount of domestic sizes, \$9.50@ \$10. Add to this \$3.64 freight for Buffalo delivery.

#### MINNEAPOLIS

*Priority Suspension Was Natural Outcome of Prevailing Situation—Northwest Must Depend on All-Rail Coal—Purchases of Illinois Coal Reduce Shortage.*

With the piling up of coal directed for the Northwest under the priority order, caused by the refusal of the trade to buy, the quick suspension of the order was to be expected. With hopes of lower prices, consumers could not see the wisdom of paying the top of the market.

Yet the situation is most unfortunate. The close of navigation is but a few weeks away and after that all supplies must come all-rail. When cold weather and winter storms add to the difficulties of railroad work, there may be a serious handicap to moving any great quantity of coal. The dock supply is short a full 4,000,000 tons. This is almost wholly on soft coal, for the figures on anthracite are close to those of a year ago, and the mild weather has held down that consumption materially.

A shortage of such quantity is not readily made up. However, several railroads of the Northwest have increased their contracts for Illinois coal and diverted their use of fuel from dock supplies. The orders amount to 3,000,000 tons, which are probably at least double the former orders. Some gas and electric light concerns have also gone into the Illinois field for a considerable amount of coal, which further reduces the shortage. The tendency to hold down on buying manufactured goods because of expecting lower prices, will also cut down industrial consumption.

While it is not possible to figure at all closely on the showing here made, yet it seems that the shortage is cut in half. With the improved situation developed by the railroads speeding up, it seems likely that it becomes a ques-

tion of production. Even the deliveries during the month to come over the docks may show up better because there will be less competition elsewhere when the urgency seems more remote.

The difficulties of the Northwest are far from solved. Should the car situation fail to stand up when severe weather is at hand, it will speedily make things look bad. The dock stores are short and it will not take long with a heavy demand to get them down to the vanishing point.

#### MILWAUKEE

*Suspension of Lakes Priority Order Causes Uneasiness—Railroads Must Be Depended Upon During Coming Winter—State-Wide Coal Investigation Inaugurated.*

A quiet market prevails, but there is an undercurrent of uneasiness because of the suspension of the Lakes priority order. The supply of hard coal is nearly exhausted and it is difficult to get domestic grades of Eastern bituminous. Milwaukee is well supplied at present with Western steam coal.

Suspension of the priority order dissipates all hope of securing a reasonable stock by the time navigation closes, and the future will have to depend upon the efficiency of the railroads. There is a fair movement by Lake at the present time and rail conditions have been unusually satisfactory.

A state-wide coal investigation has been inaugurated by Attorney-General John J. Blaine in order to determine the truth of charges that coal supplies have been held up at port cities so that inland distributors might profit. One dealer has testified that it was utterly impossible to secure hard coal for his trade and that in order to get bituminous he was compelled to deal with jobbers in Illinois who charged a commission of nearly \$3 per ton. Complaint is also made that high-priced coal is of inferior quality. Some state institutions report as high as 30 per cent ash and low heat value.

Hearings will be held at Milwaukee Nov. 10, Racine Nov. 12, Sheboygan Nov. 18 and Ashland Nov. 20. Other cities will be included before the investigation closes.

#### CLEVELAND

*All Grades Decline—Receipts Improve—Market Weakens Steadily—Suspension of Lakes Order Beginning To Be Felt—Fair-Practice Commission Is Functioning.*

**Bituminous**—Steady increases in the supply of fuel and continued decline in demand for industrial coal, together with softening prices, are the outstanding features of this market. The Fair-Practice Commission formed recently is now functioning. It is acting as a bureau to strike at profiteering and unfair dealing in any phase of the coal trade. The committee has announced it would receive complaints regarding any cases of unreasonable prices, and

will co-operate with the United States district office.

So far, suspension of the Lakes priority order has had no pronounced effect upon coal receipts or prices. It is beginning to be reflected, however, and as the receipts increase, prices are expected to continue to drop. In the meantime, dealers have coal in their yards which was purchased at high prices and are not inclined to take a loss on it. The policy now being employed is to average the high price coal and the cheaper fuel now obtainable. Should demand fall suddenly, however, quotations might tumble. Plant idleness in this locality is spreading surprisingly.

Coal is coming in at a better clip than for many weeks. The Pennsylvania lines furnished mines nearly 100 per cent car supply for a number of days last week. Other lines, however, are not running above 65 per cent. Prices for mine run No. 8 range \$3.50@ \$5 against a maximum of \$8 a few weeks ago.

**Pocahontas and Anthracite**—All grades show concessions of 50c.@ \$1 a ton. Dealers' yards are not heavily stocked and supply is said to continue nearly 50 per cent under the demand.

**Lake**—Coal is still moving forward to the Northwest on contract, but buyers are withdrawing from the market, awaiting lower prices. Soon the greater portion of the movement which has been going up the Lakes will be available for use in this district and when the season closes in a few weeks this supply will be augmented.

Retail prices of coal delivered in Cleveland follow:

Anthracite—Egg, chestnut and stove, \$15.  
Pocahontas—Shoveled lump, \$11.75;  
mine run, \$11.25.  
Domestic Bituminous—West Virginia splint, \$11.75; No. 8 Pittsburgh, \$9.50;  
Cannel lump, \$15.  
Steam Coal—No. 6 and No. 8 slack and mine run, \$10.25; No. 6 ¾-in. lump, \$10.25.

#### Inland West

##### DETROIT

*Slowing Demand for Steam Causes Price Reduction—Domestic Market Continues Firm—Better Bituminous Receipts—Anthracite Conditions Are Not Improving.*

**Bituminous**—Various conditions have brought about a less active demand for steam coal. This is in part due to a curtailment of industrial activity because of the unsettled state of trade, and is also the result of the expectation among some of the buyers that reductions are likely to be made in prices of coal. With this belief, buyers are operating more cautiously, limiting purchases to quantities sufficient to meet current requirements, as they are unwilling to risk the chance that competing industries, by delaying their buying until later, might obtain an advantage in future cost computation.

There is still, however, a considerable volume of business in steam coal and



jobbers and wholesalers say no free coal is to be found on terminals in Detroit.

This is all offset by an increasing activity in the domestic market, which is stimulated by lower temperatures prevailing the last two weeks. With the available supply limited, some dealers are taking stock usually regarded as better adapted for steam than for domestic purposes.

Reductions of approximately \$2 a ton are reported on steam prices, while the domestic sizes hold at about the same level as heretofore. Hocking mine run is quoted at \$6, slack at \$5.75 and lump at \$8. West Virginia mine run is \$7, with slack about \$6.75 and lump \$8.50.

Suspension of the Lakes priority is reflected in a better movement of bituminous to Detroit. Ohio mines are supplying a larger proportion of the shipments and more coal is coming also from West Virginia. Smokeless is still almost unobtainable.

**Anthracite**—Little if any improvement is reported. Receipts are small and shipments irregular. Retail dealers have been unable to accumulate reserves or get sufficient stock to fill the orders of waiting customers.

#### MIDWEST REVIEW

*All Prices Decline—Steam Stocks Are Heavy and Market Dull—Domestic Calls Are Stronger—Labor More Inclined to Work—Outlook Is Greatly Improved.*

During the last week or 10 days the coal situation again moved nearer to normal. The weather continues very mild and this doubtless has helped in putting an end to the wave of hysterical buying that swept the public four or five weeks ago. Those purchasing agents who were most frantic in bidding against each other are now assuming a most aloof position and refuse to buy anything but the best grades and those only at what they consider a tempting price.

The market on domestic coals keeps up just as strong as ever. However, prices on domestic are decreasing. Steam coal is more plentiful than it has been since last May. The average manufacturing plant during the early part of the season was frightened into placing big orders at high prices and consequently has an accumulation in its bins.

There has been very little work for the Fair Price Committee to undertake, as practically everyone is convinced of the mistake of trying to sell coal at abnormally high prices. As a result, prices have been readjusted to more normal levels. Another factor is that all of the big purchasers have come to the conclusion that coal prices will be reduced along with other commodities. For this reason some of the largest industries are buying only current needs.

The weekly car supply for the mines in Indiana and Illinois will probably average between 70@75 per cent, a slight decrease when compared with

the preceding week. The labor situation is considered satisfactory, as the men are showing a willingness to work and are not looking for excuses to strike over trivial details the way they were two or three months ago.

It is freely predicted that with a continuation of present conditions the coal market will move back still more toward normal.

Current mine prices quoted on the open market are:

SOUTHERN ILLINOIS	
(Franklin, Saline and Williamson Counties)	
Prepared sizes.....	\$6.00@ \$7.00
Mine-run.....	5.25@ 6.00
Screenings.....	4.15@ 5.25

SPRINGFIELD DISTRICT	
Prepared sizes.....	\$6.00@ \$6.75
Mine-run.....	4.25@ 5.00
Screenings.....	3.25@ 3.50

NORTHERN ILLINOIS	
Prepared sizes.....	\$6.00@ \$7.00
Mine-run.....	4.75@ 5.75
Screenings.....	4.00@ 4.75

INDIANA		
(Current prices on coal sold both in the state and outside.)		
	State	Outside State
Clinton Field, fourth vein:		
Prepared sizes.....	\$3.45	\$6.75@ \$7.00
Mine-run.....	3.20	5.00@ 5.75
Screenings.....	3.00	4.00@ 4.75
Knox County, fifth vein:		
Prepared sizes.....	\$3.25	\$5.75@ \$6.75
Mine-run.....	3.00	4.75@ 5.25
Screenings.....	2.80	3.50@ 4.25

#### CHICAGO

*Market Is Sluggish—Steam and Domestic Well Stocked—Anthracite Receipts Improved—Conditions Fast Approach Normal.*

This market lately has been very sluggish indeed. Retailers are not buying nor are the manufacturers, as both classes have sufficient coal on hand to give them a feeling of comparative independence, especially when compared with their situation of a few weeks ago.

Dealers have succeeded in catching up on their orders and find that they have a satisfactory tonnage still left in their bins. Householders in some cases have cancelled their orders in the hope that prices will be lowered as the season advances. It is very doubtful, however, if this proves to be the case.

The Chicago manufacturers are staying out of the market in a deliberate attempt to bring prices on steam to still lower levels. But little coal has been burned so far this season for heating purposes.

Anthracite is moving into Chicago in larger quantities than at any time during the past season and those who placed orders early in the spring are now receiving shipments on their coal.

High grade Eastern fuels like West Virginia splint and southeastern Kentucky block are coming in almost normal quantities. It has been reported that there is enough coal at the Head-of-the-Lakes, so shipments which heretofore have been moving to Lake ports are now diverted to the retail trade in Chicago.

If existing conditions keep up for two or three weeks more, the coal market will be just about normal.

#### INDIANAPOLIS

*Operators in General Observe Commission Rulings—Uncertain Feeling Reigns—Better Car Supply Makes for Quiet Market.*

The coal situation in Indiana is still in a precarious condition because of the uncertainty on the part of operators as to just what will happen in the litigation now pending against the special coal commission created for the purpose of fixing prices and other functions. There can be no doubt that coal prices inside the state for Indiana coal have slumped because of this uncertainty.

Indiana mined coal selling inside the state is bringing a price about 60 per cent lower than before the commission took active hold of the situation. For the most part, Indiana operators appear to have a desire to comply with most of the rulings of the commission. One fault to be found is with contract coal—many contracts having been made before the law went into effect.

Foreign coal appears to be at the same level as formerly, the Indiana commission having no jurisdiction over this. However, domestic consumers, because of the vast difference in price between domestic and foreign fuels, are showing a sudden disposition to see if their furnaces can not be made to burn Indiana coal instead of the West Virginia, Kentucky and Pocahontas products, formerly the popular domestic grades.

Taken over a period of weeks, the car situation appears to have improved considerably. Another thing that has kept the market somewhat quiet is the unusually warm weather for this season. A bitter cold wave would, it is thought, liven up the market.

#### COLUMBUS

*Domestic Remains Firm—Steam Grades Are Weaker—Production Is Generally Good As Car Supply Improves—Lake Trade Is Still Active.*

Dealers are now flocking in the market since the removal of the Lake priority order and as a result, domestic trades continue strong. Dealers' stocks are still light. Some of the smaller dealers are not disposed to enter the market because of belief of lower prices, but pressure from customers is compelling them to buy. Production of lump is limited by the fact that screenings are becoming a drag on the market.

Retail prices are rather firm at former levels, although there is a tendency to decline in sympathy with lower prices at the mines. Hocking lump retails \$9@ \$10.50, mine run, \$8.75@ \$10. West Virginia splints are \$10.50@ \$11.50 and Pocahontas \$12.50@ \$15.

The steam trade is still showing some weakness, although prices have not declined materially during the past week. Demand is still about equal to the supply. Steam users have now succeeded in laying in a comfortable surplus. The stoppage of many industrial concerns

has resulted in a heavy falling off in demand. Railroad call is still fairly good.

Lake trade is progressing satisfactorily with a good tonnage still moving. Prices for Lake tonnage remain strong around \$6@6.50. The H. V. docks at Toledo during the week ended Oct. 30 loaded 178,779 tons as compared with 208,531 the previous week. The T. & O. C. docks during the same week loaded 92,854 tons as compared with 95,934 the previous week.

Production has shown up quite strong despite the interruptions of election. Eastern Ohio is now better supplied with cars and output is estimated at 70 per cent. The Hocking Valley and Pomeroy Bend districts produced about 75 per cent and the same is the report from Cambridge and Crooksville.

Prices of the principal coals used in central Ohio are:

Hocking lump.....	\$6.25@7.00
Hocking mine run.....	5.00@ 5.50
Hocking screenings.....	4.50@ 5.25
Pomeroy lump.....	6.50@ 7.25
Pomeroy mine run.....	5.00@ 5.75
Pomeroy screenings.....	4.50@ 5.25
West Virginia splints, lump..	6.75@ 8.00
West Virginia mine run.....	5.25@ 6.25
West Virginia screenings.....	4.50@ 5.50
Pocahontas lump.....	7.50@ 9.00
Kentucky lump.....	6.50@ 7.25

#### ST. LOUIS

*Prices Continue To Ease—Supply Is More Plentiful on All Sizes—Car Supply Is Short—Steam Demand Easy.*

The local market has toned down considerably in the last week or 10 days. Standard lump, which was strong at \$7 a week ago, is now \$5.50@ \$6 and screenings are as low as \$3, with mine run about \$3.50@ \$4. There seems to be a general easing up in the steam demand with the exception of railroad coal. This tonnage is on the increase as the roads are trying to get a little storage ahead.

Conditions in the Standard field are more tranquil than for some time past. It is understood at the recent operators' meeting that the producers who are paying a bonus would continue to do so and would use every effort possible to induce the miners to work on Saturdays.

At the meeting of the Fifth and Ninth Bureau to discuss action of the operators' conference at Cleveland, a committee was appointed to report later. The easing up of the local prices may be indirectly the result of this meeting.

The weather here is extremely mild. Up to the present very little domestic has been consumed. The Standard field car supply is about 50 per cent on commercial, with nearly all mines taking on as much railroad tonnage as possible.

In the Mt. Olive field better working time is experienced, with heavy railroad tonnage and prices ranging locally \$4@ \$5.50.

Fairly good working time is reported from the Carterville field as well as the Duquoin section. The larger operators are selling from \$4@ \$5, while independents are getting as high as \$7.

Car shortage is serious on the Missouri Pacific and Illinois Central. Other roads show satisfactory placements.

## South

### LOUISVILLE

*Dull Industrial Demand—Production Cut by Continued Car Shortage—Domestic Demand Is Brisk and Prices Firm.*

Demand in the eastern Kentucky fields has been a little light for the past two or three weeks, as a result of dull industrial market. Some operators believe that the country is in for a quiet spell, and that after election business will be on a par with normal times, with a gradual slackening in demand toward the end of the year.

Right now all tonnage is eagerly sought, but if there were anything like a full car supply it would be necessary to hustle to keep up. Records show the eastern Kentucky field with a car supply around 35 per cent, which means that the limited production is easy to sell.

There is still some movement to the Lakes, and a little demand for gas and byproduct. Public utilities are again buying and there is some export movement, with a fair Southern market.

Stocks are light and orders are coming in better, with the result that deliveries are taking all the coal that can be secured. Warm, mild weather is making things easy for the retailers.

Locally there is a steady industrial demand, although the general postponement of buying of various lines of merchandise and the tight credit situation is beginning to tell.

Eastern Kentucky coal is being quoted at \$6 by most of the larger operators, who are endeavoring to keep out of hot water. A few are getting up to \$8 for mine run.

Retailers are quoting for eastern Kentucky \$11.50 on lump; \$11 for mine run; \$10.50 for screenings; western Kentucky lump, \$10.50; mine run, \$10; screenings, \$9.50.

### BIRMINGHAM

*Steam Market Barely Absorbs Offerings—Prices Decline Further—Domestic Supply Improves—Car Supply Is Adequate for Available Labor.*

The past week has witnessed a further depression in the steam coal market and the demand for commercial coal is now very weak and hardly sufficient to absorb the output. There is a surplus of the lower and medium grade coals and Black Creek and Cahaba is obtainable in limited tonnage in the spot market.

With a good car supply the movement of coal against contracts has been steady and heavy for the past several weeks and pressure of contract consumers on the spot market has been removed, which accounts in part for the present weakness. Coals which readily

moved at \$8.50 three weeks ago are now being offered in quantity at practically half that figure. Prices range \$4.25@ \$5 for Big Seam Jagger, Mt. Carmel and the like, while Cahaba and Black Creek are quoted \$5.50@ \$7.

Domestic coal supply is somewhat improved over the past few weeks and all current demands are being met, though the market is still strong, some mine run coal moving for domestic consumption. Coal men are of the opinion that considerable mine run will have to be diverted to domestic channels to properly supply all requirements through the winter. The vast majority of consumers buy only in sufficient quantity to meet immediate needs and little progress has been made in stocking up retail yards. Based on a schedule fixed by the State Fuel Administration Big Seam lump will retail for \$8.50, Carbon Hill \$9.25 and Black Creek and Cahaba \$9.50.

Working organizations at all mines will now probably average 90 per cent normal and coal production for the week ended Oct. 23 was approximately 271,000 net tons. Labor is not working regularly and the average output per man is under normal. Car supply is sufficient to meet requirements.

## West

### DENVER

*Fair Practice Committee Favored—Lignite Strikers Gradually Returning—Industrial Commission To Force Hearing—Prices Are Steady.*

Bituminous coal operators in conference in Denver recently went on record in favor of the appointment of a fair practice committee, following the Cleveland conference of operators. The Colorado operators condemned "unreasonable prices for all products, including coal," and asked that a committee be appointed with instructions to investigate prices, and by the use of proper and lawful means to secure a reduction of any unreasonable prices, if there be such, on coal mined within the state; and to co-operate to the fullest extent with the Department of Justice.

Striking miners in the lignite fields are gradually returning to their places, following the failure of union leaders to appear before the Colorado State Industrial Commission Nov. 4 and face the arguments against proposed union recognition prepared by operators.

The operators were ready to show that hardly a majority, if a majority, of the miners had voted to take a "vacation" in the last week of October, forcing 2,000 miners out of work. The commission, determined to bring the union leaders into a hearing of the issues, postponed the case until Nov. 15.

Bituminous mines are supplying Denver with coal sufficient to prevent hardships. Prices remain steady.



## News From the Coal Fields

### Northern Appalachian

#### PITTSBURGH

*Lake Shipments Decreasing — Spot Market Continues To Soften — Predictions as to Contract Price.*

Of the 4,000 cars engaged in the Lake trade, practically in shuttle service between lower ports and the various mining districts, 1,500 have been and the other 2,500 will be laid off within the next fortnight.

As long as the original priority order in favor of coal mines continues in effect these cars must remain in coal service, so that supplies for line trade are increasing. Report has it that the Interstate Commerce Commission will shortly rescind the priority order, the only one of the group of orders relating to coal distribution remaining in force, as of Dec. 1.

Industry consumption has decreased further and this may be one of the influences in the market, but evidently the chief influence is a sentimental one, arising out of realization on the part of many buyers that coal is not scarce, and that it may be very plentiful for a time, after the Lake season ends and before winter weather makes fresh transportation difficulties. Even in conservative circles a more or less severe car shortage is expected for the winter.

The spot coal market has continued to soften and prices are still but poorly defined, though they are clearly lower than a week ago. In general, the market may be quoted \$5@ \$6 for steam, \$6@ \$7 for gas and \$6@ \$6.50 for best grades of byproduct.

Price prospects for the future are being canvassed eagerly, but as yet there is no clearly defined opinion. In well informed circles, however, it is predicted that the contract price for steam will be developed at not under \$4 nor more than \$4.50, the spot market hovering around this level except as car shortage at one time or another may bring about higher prices.

#### CONNELLVILLE

*Spot Market Declines More Slowly—Conjectures As to Eventual Prices—Furnace-Oven Production Increases—Demand Is Weak.*

The spot furnace coke market has continued to decline, but at a much slower rate than formerly, the market being now \$9 against \$10 a week ago, while in the fortnight preceding there had been a decline of \$7.

This decline, as previously explained, was brought about chiefly by a number of furnaces banking or blowing out, and

thus suspending shipments on their requirement contracts. Whether the slowing down in the rate of price decline is due to figures nearing their eventual bottom or is due to resistance on the part of some operators to a decline below \$10, on account of costs, is yet to be determined.

Some operators have been trucking coal to leased ovens, located over worked-out coal, their cost being about \$10, while the cost for well-positioned operators is about \$5. As the special production under emergency conditions can hardly have been large, the decrease in coke consumption by furnaces is likely to cause the decline to continue.

While coal market prospects are somewhat uncertain, the belief is that coal will bring a good profit right along, and if so it is doubtful if coke will sell below a relation to coal value. In some quarters it is reasoned this will mean a coke price of \$6@ \$8 on contracts for the first half of next year, as well as for spot with foundry coke perhaps a dollar a ton higher. Thus far foundry has not declined all the way to a relation with furnace. We quote spot coke at \$9 for furnace and \$11@ \$12 for foundry.

The *Courier* reports production in the Connellsville and lower Connellsville region in the week ended Oct. 30 at 224,295 tons, an increase of 15,655 tons, the increase being entirely on the part of the furnace ovens.

#### FAIRMONT AND PANHANDLE

*Sharp Break in Fairmont Prices—Car Placement Declines Further—Panhandle Output Grows With Better Car Supply—Labor Is More Active—Prices Soften—Lakes Shipments Decline.*

#### FAIRMONT

The last week of October was featured in the Fairmont and other northern West Virginia regions by a sharp break in prices and a scarcity of cars. By the middle of the last weekly working period of October Lake prices had declined about 75c. to \$5.25 and in some cases \$5. There was even a break of 25c. in the price of export for Pool 34, the average price by Wednesday being \$10. General line shipments were hovering around the \$6 mark.

It was apparent that there was a general drive on high prices and producers themselves have had much to do with the lowering of prices. Another factor has been the large volume of coal which has piled up at the Lakes. Embargoes also on some of the roads out of the northern part of the state have played a part in forcing prices downward.

There were not more than 800 empties on the Monongah Division of the B. & O. on Tuesday and on the Charleston division of the same road the supply was limited to about 50 per cent. On both the Monongahela and the Western Maryland railroads, however, there was a better run of cars, such a supply being maintained during the better part of the week, though many of the cars on the Monongahela were assigned for New York Central fuel loading.

Lake deliveries appeared to be on a smaller scale than during preceding weeks. While the week opened with a comparatively large tonnage flowing to

### Estimates of Production

FROM THE WEEKLY REPORT OF THE GEOLOGICAL SURVEY

#### BITUMINOUS COAL

	1920		1919	
	Week	Calendar Year to Date	Week	Calendar Year to Date
Oct. 16b	12,110,000	428,325,000	11,829,000	376,511,000
Daily average	2,018,000	1,742,000	1,972,000	1,531,000
Oct. 23b	12,241,000	440,566,000	13,140,000	389,651,000
Daily average	2,040,000	1,749,000	2,190,000	1,547,000
Oct. 30c	12,338,000	452,904,000	12,111,000	401,762,000
Daily average	2,056,000	1,756,000	2,019,000	1,558,000

#### ANTHRACITE

Week Ended	1920	1919
Oct. 16	1,855,000	1,916,000
Oct. 23	1,915,000	1,992,000
Oct. 30	1,696,000	1,475,000

#### BEEHIVE COKE

United States Total

Week Ended		Nov. 1 1919	1920 to Date	1919 to Date a
Oct. 30c	Oct. 23b			
399,000	391,000	347,000	17,665,000	16,199,000

(a) Less one day's production during New Year's week to equalize number of days covered for the two years. (b) Revised from last report. (c) Subject to revision. All figures in net tons.

Tidewater it seemed to diminish in volume as the week progressed.

#### NORTHERN PANHANDLE

Conditions in the Northern Panhandle were more favorable to a large production. A better car supply was mainly responsible. During the last few days of October mines served by the B. & O. were getting out a larger volume of coal than for some time past.

Labor conditions were more conducive to larger loadings, miners showing more inclination to work, being encouraged to some extent by the better car supply. There was also an excellent rail movement.

If anything, there was a further softening of prices, with the demand for line shipments rather inactive. The general price on mine run was \$6 a ton, though in some instances it was lower. There was an absence of urgent demand for Lake shipments and prices for Lake coal were hardly on a par with those covering Inland market deliveries.

#### CENTRAL PENNSYLVANIA

*Operators Form Fair Practices Committee — English Shortage Forecasts Trade Stimulation.*

It is the general belief of operators in the district that the law of supply and demand will have considerable to do with prices of coal during the winter in spite of the pledge of support by the National Coal Association to Attorney General Palmer in his efforts to eliminate unreasonably high prices. Coal operators of this district are unwilling to predict a decided drop in prices, although they generally agree that a fair price fixed for fuel would be a good thing.

Local operators say that while the effect of the English walkout has not been felt in America as yet, the big strike will tend to boost prices. The strike has meant a big loss in tonnage and English consumers will look to America for supplies, which means an increased demand and will be bound to stimulate the upward trend of quotations.

The Central Pennsylvania Coal Producers' Association has passed a resolution pledging operators not to ask unreasonably high prices. This action was taken to support the measure approved in the recent Cleveland meeting.

#### EASTERN OHIO

*Car Supply Is Unchanged—Production Limited by Indolent Labor—Domestic Trade Now Getting Adequate Supplies—Prices Are Firm.*

Production has not increased as anticipated at the time the recent out-law strike was ended. Figures for the week ended Oct. 30. show a production of approximately 350,000 tons.

This falling-off is partly due to insufficient car supply, which has not been better than 75 per cent during this period, but operators report that the men do not seem inclined to work more than about half time. It is, therefore,

somewhat doubtful whether 100 per cent supply based on mine ratings could be loaded at this time.

Suspension of Service Order 10 by the Interstate Commerce Commission has enabled many operators to divert their production to local trade in the immediate territory. It seems that those interests which have been fearful that a supply of coal would not be available for this winter, are in this way assured, and retailers and consumers report that they are able to get all the coal they want or can handle.

Prices range \$5.50@\$6 for lump coal and \$5@\$5.50 for slack. Railroads continue to take over 30 per cent of the output.

### Middle Appalachian

#### LOW-VOLATILE FIELDS

*Production Drops With Poor Car Supply—Prices Are Fairly Firm—Heavy Demand From All Markets—Some Labor Shortage—Tide Shipments Are Large.*

##### NEW RIVER AND THE GULF

Not more than half the full car supply available in the New River field on Monday was utilized on that day, the mine workers being absent in order to hear the speeches of a candidate for the presidency. As there was a large number of cars left over, the Tuesday placement was ample to meet all requirements of the mines. Subsequent to Tuesday, however, there was a scarcity of cars; indeed, it is doubtful if the placement for the week was equal to more than 50 per cent of requirements, so that there was about a 10 per cent loss as compared with preceding weeks.

Free from any restrictions as to shipment there was an excellent market for New River fuel. The larger part of the output was being transported to Tidewater and Inland East points, there being a gratifying demand in evidence in such markets with prices fairly well stabilized. Consignments of single car orders to Inland West markets were also numerous, this coal being largely for domestic use.

Winding Gulf production dropped down a peg or two both because of an inadequate car supply and because of a series of political meetings on Monday. The principal obstacle to greater production was a marked shortage of empties on the Chesapeake & Ohio, mines on that road not being able to operate more than half the week. Placement on the Virginian Ry. was better. A labor shortage was still somewhat of a factor in reducing production.

Dumpings at Tidewater continued on the same large scale, boats being sufficient to handle the coal consigned to Sewells Point.

##### POCAHONTAS AND TUG RIVER

Both fields were far short of attaining maximum production during the final week of October largely because

cars were harder to secure, the transportation situation failing to show any improvement. There was a fairly heavy demand for all smokeless coal in both Eastern and Western markets.

Diminished car supply curtailed production in the Tug River field. The scarcity on the Norfolk & Western was entailing a loss of at least 25 per cent. This was because of the difficulty of getting cars back from Western connections, as there was a comparatively prompt movement between the mines and Tidewater. Production was also suffering to some extent from a labor shortage.

Prices for Tug River coal were showing less fluctuation than was the case in other fields. The export demand was rather brisk though not urgent.

Slump in production in the Pocahontas region was still in evidence in the last week of the month, when the output still hovered around the 300,000-ton mark, with a car shortage figuring to the extent of approximately 100,000 tons. It was a lack of cars from the West which was causing a diminishing supply, there being much Pocahontas coal remaining unloaded at the Lakes.

Conditions were favorable to a large production as the Pocahontas market was very much more active than was the case in high-volatile fields. Tidewater shipments were large though Inland West markets were getting their share of coal, the domestic demand being much more active.

#### HIGH-VOLATILE FIELDS

*Car Supply Declines Slightly—Thacker Labor Situation Is Unimproved—General Price Recession With Weaker Markets — Committees Forming to Function Along Lines of Resolutions Adopted at Cleveland Meeting — Domestic Situation Being Met.*

##### NORTHEAST KENTUCKY

There was marked uncertainty as to car supply in the northeast Kentucky field from day to day because of the constant fluctuation in placement. The largest production was on Monday, when the output was not far short of 30,000 tons. During the week as a whole, however, not much more than 110,000 tons or just about half of potential capacity were produced. The last week of the month saw continued heavy Lakes shipments.

Prices appear to be sinking to even lower levels than have heretofore prevailed, no doubt because of the action recently taken at Cleveland. The average price for mine run is clinging to the \$6 mark and wherever coal is being sold below that figure it is believed such a price will not be permanent.

A glutted Lake market has tended to depress the price of coal for that movement. There is a very active domestic demand and interstate markets are receiving a larger tonnage than was the case not so long ago.

##### KANAWHA

Distribution was once more restricted to Western markets during the greater part of the last week of October by a



reimposition of the Tidewater and general Eastern embargo on the Chesapeake & Ohio, which covered everything except loads in 70-ton cars, even the movement of such cars being limited to points on the C. & O.

For a time during the preceding week mines were required to ship only 10 per cent of mine rating to the Lakes, but just prior to the suspension of Order 10 the quota was back at 20 per cent for mines on the Chesapeake & Ohio. A declining Lake demand was reflected in rather weak prices. The market price for Tidewater was about \$11 and was softening. Steam coal for Inland points was selling about \$6.50, and that demand was also showing signs of weakness. On the other hand, there was a brisk and growing demand for domestic.

The car supply was less encouraging, for although there was a full run of cars on Monday later placement was down to 72 per cent, with many assigned and private cars.

#### VIRGINIA

Production in southwest Virginia at the end of October was being maintained on recent levels, although increasing losses from car shortage were becoming apparent. Such losses were partly counteracted, however, by greater regularity in the working time of men. In other words, while labor shortage losses were sliding downward car shortage losses on the Norfolk & Western and one or two other roads were climbing. On the whole, October production was in excess of that for September.

Prices were seeking lower levels according to information generally available. As in previous weeks operators were making a special effort to supply home consumers, even though called upon to forego more attractive interstate business.

According to information at hand, the first week of November will see the formation of a special committee to hear complaints of consumers and otherwise function along the lines suggested in the resolution adopted at Cleveland.

#### LOGAN AND THACKER

An unusually large production on Monday reached 61,350 tons—as large as has been witnessed during the year. A growing shortage on the Chesapeake & Ohio, however, materially reduced the Logan output later in the week.

Though a large percentage of the Logan output was going to the Lakes, the limited production of course cut down these shipments. The Lake market was not particularly active and was responsible in some degree for shaded prices. In the steam trade buyers were withholding orders so that steam was still on a \$6 level. A better price was obtained, however, for domestic lump, which ranged \$7@\$.8. During the first part of the week Tidewater was cut off owing to the Chesapeake & Ohio embargo.

Production in the Williamson field was in the neighborhood of 75,000 tons. While a car shortage loss had been decreased slightly there was still a shortage even for this field, where not all the mines are working because of a strike. Labor shortage losses were slightly increased as was the loss charged to the strike, which amounted to about 47,000 tons. However, producers felt sanguine as to the final outcome of the strike although anticipating trouble whenever the Federal troops were withdrawn. A large percentage of the output was going to Western markets at prices about equal to those prevailing in other high volatile fields.

### Middle Western

#### DUQUOIN

*Car Supply Decreases—Prices Soften—Demand Is Lighter—I. C. R.R. Orders New Equipment.*

Conditions during the past week have taken a marked change. The demand seemed to drop off slightly and was most noticeable on the screened sizes. The market in the region of Memphis, where much of the coal from this district is shipped, was not so strong as for the last few weeks. The usual steady trend of coal moved northward into Chicago, Milwaukee and other large industrial centers.

It has been estimated that the Illinois Central Railroad carries over 70 per cent of the coal shipped north from the southern Illinois field, which probably accounts for the road recently ordering 25 new locomotives for use in the field.

For the first time in several weeks the mines were forced to "blow off" two or three days during the week, due to an inadequate car supply. However, the shortage seemed to have had no effect on the softened price. During the week prices ranged on screenings, \$3.90@\$.4.25; lump, \$5@\$.5.50; mine run, \$4@\$.4.25.

#### WESTERN KENTUCKY

*Demand Good with Prices Well Maintained—Poor Car Supply Continues—Competitive Rates Are Being Secured.*

Operators report a very steady and good demand for coal, with movement continuing good into the Southern cities, Cincinnati, Detroit, and some other markets. Steam demand is showing steady improvement, while production of lump is eagerly sought.

Operators of the field, through the West Kentucky Coal Bureau, are steadily working for better traffic rates to fields that are tapped by the southern Illinois section and other producing districts, and are securing competitive rates which enable movement into wider territory.

Car supply for the past months has been showing a decline in western Kentucky, while other sections have been

experiencing some improvement. Supply on the L. & N. lines has been down to around 26 per cent for two weeks or more, while on the I. C. lines it is about 40 per cent.

Average prices for the week ended Oct. 30, as taken from records of sales, show prepared sizes, \$6.09 a ton; mine run, \$5.11; screenings, \$4.12. On the spot market some lump is selling up to \$7@\$.7.50, with mine run as high as \$6.50, and screenings \$5.50.

### Western

#### UTAH

*Labor Conditions Are Fair—Car Situation Is Serious — Price Increase Is Seen.*

Labor conditions at the mines are satisfactory on the whole. The car situation continues serious, however, and losses are mounting daily. An official of one of the leading producing companies says the mines are working 50 @55 per cent of their capacity and he does not look for any immediate relief. The feeling prevails that prices will have to go up at the mines if the car supply becomes any worse.

While retailers do not report large stocks in the yards, they do not, as yet, seem to be feeling the car shortage. This is partly due to the fact that the weather has not been severe so far, and partly because consumers have secured their supply during the summer. If the present car shortage grows any worse, however, retailers may be hard pressed.

The dispute between the Utah Public Utilities Commission and the Interstate Commerce Commission regarding the proposed increase of freight rates in Utah, as in other states, has not been settled yet.

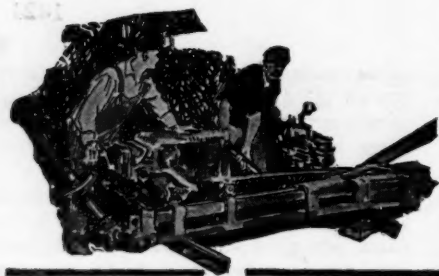
The curtailed output is reducing the trade in Utah coal at the coast.

### Southern Appalachian

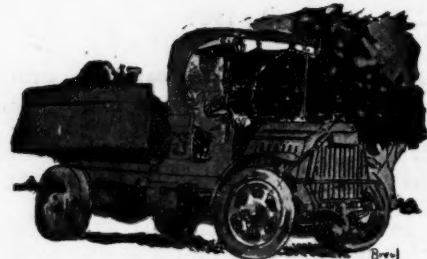
#### SOUTHEASTERN KENTUCKY

*Car Supply Is Worst on Record — Prices Being Forced Up — Practically No Spot Tonnage Available.*

Production has suffered a severe slump, due to the extreme local shortage of cars which is the worst yet experienced. Mines are not averaging more than one day per week with demand for all grades so strong that prices are slowly being forced beyond the maximum of \$6. The executive committee, charged with the enforcement of Service Order No. 21 seems to be entirely ignorant of the true situation in this field, for they state to applicants for assigned cars that the supply is so good that they should get coal without difficulty. Practically all production is going to fill contracts with the domestic trade getting all the surplus.



# Mine and Company News



## ALABAMA

Articles of incorporation have been filed in the probate court of Jefferson County by the **Hercules Coal Co.**, Birmingham. J. Molton Smith is president; Fleetwood Rice, vice-president, and J. B. Robinson, secretary-treasurer. The company is capitalized at \$50,000.

## COLORADO

Articles of incorporation have been filed with state officials for the **People's Co-operative Fuel Co.** for the purpose of mining and selling coal and other fuels in any county in Colorado. Capital stock is \$500,000. Directors are Homer Vinsonhaler, F. H. Rose, F. B. Meek, Edward Tadlock and O. T. Vinsonhaler. L. Y. Yowell, Lamar C. Puett, J. E. McCall, A. O. Walde and J. L. Jewett are incorporators.

## IDAHO

The discovery of a vein of coal in the Jerusalem hills, east of Gardena station, recently, by the **Idaho Oil & Gas Co.**, is believed by the residents of Boise County and the Jerusalem valley to be the forerunner of other important discoveries in that section. The vein just found was tapped at the depth of 12 ft. The top is composed of low grade lignite coal, common to that part of the country, but as the vein goes down it develops into a high grade coal that burns to a clean ash.

## ILLINOIS

The **Citizens Coal, Coke and Mining Co.** has been formed in Springfield recently and will handle the entire output of Mine A and Mine B of the Citizens Coal Mining Co. of that city.

A new proposition is now under way in Duquoin whereby in the neighborhood of fifty modern residence houses will be built within the next eight months. The purpose of the plan is to draw more miners to the city, and is backed by the largest coal operators in the vicinity.

The detail of the plan is to raise about \$125,000 to start with and employ some construction company from Chicago to commence at once to build the houses, and as soon as they are finished sell them at cost price to miners and allow them to pay by installments.

There are forty-five men working at the **Rutland** coal mine, thirty below and fifteen on top. The mine is working full time with the men they have and would work 100 men below if they could be secured. Very little coal is shipped from this mine as the local town and farm trade use most of the output. Coal is selling at the mine at \$7 per ton.

The **Mitchell Hopkins Coal Co.**, Rock Island, has been incorporated to deal in coal and other fuels, with capital of \$25,000.

For the first time in three months the coal car equipment of the Chicago & Alton R.R. was marked up 100 per cent efficient in Springfield recently. The 150 available cars were sufficient to care for the demands of the shippers.

A new coal mine has been opened on the land owned by Dr. W. F. Myers, three miles southwest of Coal Valley. Messrs. Sauerman and Butterfield of Rock Island, Ill., are interested parties.

Operations are to be begun at once by the **Jewel Coal Mining Co.** on a new mine west of Duquoin. The daily output of the mine is expected to be between 1,000 and 1,200 tons.

## IOWA

"Coal prices in Iowa are unreasonably high," says Horace G. Larimer, of Charlton, state fair price commissioner. "This is in part due to excessive profits by certain coal operators, some of which are charging retailers of coal from \$6 to \$7.50 a ton, while coal of a like quality from Iowa mines is being sold to railroad companies at from \$3.40 to \$3.60 a ton, and in some instances for as low as \$2.85 a ton to large industrial plants.

"Large coal operators in Illinois, owing to labor troubles, are unable to fill their larger contracts for coal at less than from \$4 to \$4.25 a ton, and therefore offer but little competition to Iowa coal operators. It can, however be said in mitigation of the prices charged by some of the small operators that these high prices have enabled them to work mines of shallow veins.

"The cost of producing this coal is perhaps from \$4 to \$5 a ton."

While coal is not listed among the commodities, Mr. Larimer is empowered to interfere with them when he deems their prices excessive.

## KENTUCKY

The **Hamilton-Elkhorn Coal Co.**, Harold, recently organized, has had plans prepared for the erection of a new steel coal tippie to include equipment for all features of operation. A housing development will also be established for miner's homes.

A. F. Parsons, Hazard, and associates, have leased coal property in this locality and are having plans prepared for its development.

The **Devon Coal Co.**, Pineville, capital \$100,000, has been chartered by R. I. Cawthorne, P. K. Salsburg and H. B. Mitchell.

The **Kentonia Coal Co.**, Pineville, has increased its capital from \$100,000 to \$200,000.

Among new corporations and fresh charters filed by companies doing coal business in the state of Kentucky are a number of fair sized companies. High prices asked for fuel coal today are said to be influencing many new companies into starting into business, although there are cars sufficient for those operating. The new charters are:

Rockhouse Coal Co., Hazard, Ky., increasing capital from \$150,000 to \$250,000.

Hays-Elkhorn Coal Co., Shelby, \$25,000, O. C. Hays, T. J. Chandler and A. L. Prater.

Dixie Block Coal Co., Somerset, \$1,500, Ward Fulkner, H. L. Baisley and Tom Hughes.

Holt Brothers Mining Co., Central City, \$200,000, E. W. Holt, B. B. Holt and Mary C. Holt.

Looney-Justice Coal Co., Regina, \$20,000, Alexander H. Rooney, S. E. Looney and W. P. Haynes.

Hamilton-Elkhorn Coal Co., Harold, \$3,000, Emmett Hamilton, Jr., J. O. Flannery and John N. Hamilton.

Wade Coal Co., Pikeville, \$25,000, W. P. Pinson, Monroe Gooslin, W. P. T. Varney.

Millers Creek Kentucky Mining Co., Louisa, \$20,000, T. E. Lane, M. F. Conley and N. B. Conley.

The Ashton Coal Co., Ida May, Ky., \$2,000, M. V. Abston, G. B. Smith and Hiram Begley.

Benewitz Coal Co., Greenville, Ky., \$20,000, Louis Benewitz, L. Z. Kirkpatrick and Carlisle Kirkpatrick.

Ruby Coal Co., Middlesboro, \$20,000, James Lawson, I. K. Wilson and John Howard.

Pine Knot Cannel Coal Co., Morehead, \$30,000, W. D. Johnson, Drew Evans, H. M. Collins.

Vinson-Harlan Coal Co., Louisville, \$100,000, Conrad Kolb, R. E. Bowen and Guy Vinson.

Premium Cannel Coal Co., Mt. Sterling, \$50,000, Lewis Apperson, E. W. Apperson and M. M. Apperson.

The Dudley Park Coal Co., Heidelberg, \$10,000, J. C. Short, James S. Farley and Pryse Wilson.

Elk Ridge Coal Co., Morehead, \$30,000, W. D. Johnson, Drew Evans and H. M. Collins.

## MISSOURI

The **Missouri Public Service Commission**, Jefferson City, has issued a statement in regard to the coal shortage in that state, in which every consignee of coal is urged to hasten the work of unloading coal cars and see to it that no cars are detained in excess of twenty-four hours. "One of the principal necessities of an adequate supply of coal," says the statement, "is a sufficient

supply of empty cars, and this can be materially increased by shippers promptly unloading cars.

A few days ago the members of the commission, the Attorney-General, representatives of the railroads and coal operators met in conference in St. Louis to devise means for securing a better supply of coal from the Illinois mines, and a committee was appointed with this end in view, of which Henry Miller, president of the Terminal Railroad Association, was made chairman.

In its last statement the commission says that it had decided to give preference to Missouri shipments which are intended for householders' use and requests for emergency supplies may be addressed to the committee at Room 300, Union Station, St. Louis. "The coal situation in Missouri is reported to be acute," says the report, "and it is stated that unless prompt action is taken to secure an increased supply from the Illinois district, there will be much suffering in Missouri the coming winter."

## OHIO

In the question of increasing the rate for natural gas, which has been pending in the city council of Columbus for some time, a resolution was adopted in which the public was advised to use coal for major heating operations during the coming winter in view of the scarcity of natural gas. It is urged that natural gas will be too scarce for the heating of dwellings but should be conserved for cooking purposes and heating water and small rooms.

The **Herrold Coal Co.**, Columbus, has been chartered with a capital of \$10,000 by D. A. Evans, R. B. Cuthbert, H. H. Long, E. M. Marquand and E. H. Davis. The concern has taken over a small mine near the brick plant of the Hocking Valley Brick Co., to supply the plant with fuel.

The **East Canton Coal Co.**, Canton, has been chartered with a capital of \$25,000 by G. F. Whittemore, J. A. Baum, G. E. Osborn, E. M. Edwards and E. D. Carey.

The **Frontier Coal Co.**, Toledo, has been incorporated with a capital of \$20,000 by C. W. F. Kirkley, H. L. Christopher, R. M. Marks, E. M. Bushman and C. J. Smith.

The **Broad Run Coal Co.**, Columbus, has been chartered with a capital of \$200,000 by J. W. Quillan, A. U. Quillan, L. D. Johnson, R. Coffman and J. W. Durnell. The company has taken over a coal mine in West Virginia near Huntington.

Mines No. 22 and 22 of the **Hyslvania Coal Co.**, Gloucester, located on the T. & O. C. RR. have been completely flooded by water from old workings which were recently tapped. Unfortunately, the levels of the two mines are below that of adjoining workings and when the walls were broken the mines were rapidly filled up.

The **Ohio River to Lake Erie Waterways Association**, of which Henry A. Williams of Columbus is president, held a meeting with the board of U. S. Army engineers recently in Columbus, when arguments for locating the proposed canal through central Ohio were presented. It was argued that Portsmouth is on the 83rd meridian, so is Columbus and so is the west end of Sandusky Bay on Lake Erie.

## OKLAHOMA

The **Shamrock Coal Co.**, Henryetta, recently incorporated, is perfecting plans for the development of 320 acres of coal property. Electrical equipment will be installed at an early date. J. W. Hinton heads the company.

## PENNSYLVANIA

The **Gilmore Coal Mining Co.**, has been incorporated with a capital of \$100,000. E. L. Morris, Pittsburgh, is treasurer.

Work has begun on the Catawissa side on the drainage tunnel, which will tap the water from the lower levels of the **Lehigh & Wilkes-Barre Coal Co.**'s workings at Green Mountain.



## WEST VIRGINIA

While their identity has not been disclosed it is learned that Pittsburgh people have acquired a small though valuable tract of land at Round Bottom, Marshall county from the **Chestnut Hill Sand and Coal Co.** there being about 165 acres in the tract for which the new owners are said to have paid a price of \$40,000. It is understood the new owners will begin at an early date the work of sinking a shaft to the six-foot seam of Pittsburgh coal which underlies the tract.

The **Weirton Coal Co.**, Weirton, recently organized with a capital of \$25,000, has acquired 268 acres of coal lands and are planning for the early development of the property, with a daily capacity of from 300 to 500 tons. Complete mining machinery and equipment for all features of operation will be installed. R. B. Jester is president-manager and John Cutone, treasurer.

Fairmont coal people are behind the **Westwood Coal Exchange** just organized with a total capital stock of \$50,000, general offices of the company being at Fairmont, W. Va. Among the coal men so interested are: H. W. Showalter, Brock Showalter, E. M. Showalter, S. D. Brady and A. P. Brady.

Development work in Raleigh county will be undertaken by the newly organized **Raleo Coal Co.** of this city which has a capital of \$25,000. Back of the new concern are M. B. Hoffman, A. P. Grass, B. H. Ashworth and W. A. James, of Beckley; W. E. Davenport of Lester, Raleigh county.

Thomas Love and associates, well-known Connellsville coal people, have formed the **Thomas Love Coal & Coke Co.** which will operate on a very large scale in the Fairmont region as indicated by the large capitalization of \$400,000.

C. M. Lilly and associates of Beckley, who recently figured conspicuously in the deal under the terms of which the **Lenark Coal Co.**, operating on Piney was acquired, have ushered into existence the **Four Vein Coal Co.**, which has a capitalization of \$200,000.

Mining operations will be conducted in Mingo county by the **Tug Fork Coal Co.**, newly organized by Williamson people including James Damron and others. The concern is capitalized at \$25,000. General

headquarters of the company will be at Williamson.

The **W. & C. Coal Co.** will operate in McDowell county, having been organized with a capital stock of \$25,000, with McDowell county business men largely interested as follows: W. W. Wood, G. L. Wood and L. M. Rich, all of Kestone; W. D. Carter and I. R. Carter of Northfork. Offices of the company will be at Keystone.

Because of the sanitary arrangements made by the **Consolidation Coal Co.** in the various towns in which it operates in West Virginia, health conditions in such communities are above the average. For instance, in the 29 mining towns in which it operates in West Virginia there has not been this year a single case of typhoid fever, although there are 37 mines in the towns mentioned and fully 5,000 miners are employed, total population being estimated at 15,000.

The death toll in West Virginia mines for September was thirty-one, according to a report of the **West Virginia Department of Mines**, fifteen—or nearly half—the casualties being due to fall of roof and coal, although five met death in mine car accidents, two through mining machine accidents, one in a motor accident, two through electrical shock and one in a premature explosion. There were only two outside accidents of a fatal nature.

The largest number of fatal accidents was in McDowell county where there were five; but Logan and Raleigh counties had four each, with Kanawha next with three. In the counties of Clay, Fayette, Harrison, and Wyoming there were two fatal accidents each and Brooke, Marion, Mercer, Mingo, Randolph, Tucker and Upshur each had one fatal accident.

Wagon mines on Deckers Creek in the Monongalia field will load their coal over tipples. Two tipples will be built immediately and later on three other tipples will be built so as to provide a convenient means for the speedy loading of cars. By building the tipples wagon mine operators will be able to get their pro rata of cars, something they have so far been unable to do.

While the **Penn Coal & Realty Co.** of this city was organized several months ago it was not until about October 9 that the company consummated negotiations for a tract of 1,700 acres of coal and timber land in Clay county W. Va., which will be developed on a large scale.

of the **West Kentucky Coal Bureau** vs. the Illinois Central Railroad.

In a complaint to the I. C. C. the **Hydraulic Press-Brick Co.**, of St. Louis, attacks as unreasonable the rates on coal from the Clinton district in Indiana to Brazil, Ind.

In a tentative report to the I. C. C., an examiner recommends that the rates on bituminous coal from Belleville, Benton, Duquoin, Murphysboro and other southern Illinois points to Springfield, Mo., be declared unreasonable.

In another case an examiner recommends that the rates on bituminous coal from Quinimont, W. Va., and Lilly, Pa., to Springfield, Mo., be declared unreasonable.

A reduction in the freight rates on coke in Minnesota has been asked by the Koppers coke concern in St. Paul, which claims them to be higher than hard coal rates.

**Colorado Rates.**—Coal rates have been reduced 17 per cent between the Erie and Frederick mining district and Longmont, Col., by the Union Pacific and Chicago, Quincy & Burlington R.R., in a new schedule of rates filed with the state public utilities commission.

**New Tariffs.**—Rate sheet of new tariffs on bituminous coal from mines in West Virginia, Kentucky and Pennsylvania to various destinations in the East and Middle West has been published by the West Virginia Mining News, 110 Hale St., Charleston, W. Va.

Secretary B. F. Nigh of the **Michigan-Ohio-Indiana Coal Association** is receiving a large number of letters congratulating him on the success of the fight he led to secure a better car supply for the movement of domestic tonnage in Ohio, Michigan and Indiana. While the full benefit of the recent order allotting 800 cars daily to Ohio for the transportation of domestic coal is not yet apparent, a better supply has resulted and it is believed that the full quota will soon be provided. The order was issued Oct. 15 to start at once. He was recently in conference with F. G. Robbins, director of the bureau of car service of the Interstate Commerce Commission, with reference to carrying out the recent order giving Ohio 800 additional cars for the movement of domestic coal.

Just what was paid for the tract secured has not been made public, though the consideration is believed to have been large.

## WYOMING

Greater coal tonnage for the state is apparent through the activities of the industry, which reports that first shipments have been made from the **Rock River Coal Syndicate**, with mines near Rock River on leased school land. It is estimated there are 10,000,000 tons of coal on this lease, valued at \$6,000,000.

The **Independent Coal & Coke Co.**, operating in western Wyoming, has increased its capitalization by \$1,350,000, making a total of \$2,500,000.

The state produced 919,000 tons in August and 6,436,000 tons during the first 8 months of this year.

## BRITISH COLUMBIA

Coal production of British Columbia for the month of September was:

Crow's Nest Pass Field	
Crow's Nest Pass Coal Co.,	Tons
Coal Creek.....	36,611
Crow's Nest Pass Coal Co., Michel..	21,086
Corbin Coal & Coke Co., Corbin....	15,381
Total .....	73,078

Nichola-Princeton Field	
Middlesboro Collieries, Middlesboro.	7,445
Fleming Coal Coal Co., Merritt.....	2,143
Coalmont Coal Co., Coalmont.....	1,141
Princeton Coal Co., Princeton.....	1,952
Total .....	12,681

Vancouver Island Field	
Canadian Western Fuel Co.,	
Nanaimo .....	56,775
Canadian Collieries (D) Ltd., Comox	42,005
Canadian Collieries (D) Ltd., South	
Wellington .....	8,461
Canadian Collieries (D) Ltd., Extension .....	14,545
Pacific Coast Coal Mines, Ltd.,	
South Wellington .....	7,088
Nanoose-Wellington Co., Nanoose	
Bay .....	5,456
Granby Cons. Mng. S. & P. Co.,	
Cassidy .....	16,477
Total .....	150,807

## Traffic News

The I. C. C. has suspended until March 1, pending consideration as to their reasonableness, proposed increases averaging 3 1/2 to 5 1/2c. per gross ton for dumping, skidding, trimming and leveling coal and coke trans-shipped to vessels at Lamberts Point, Norfolk, Sewalls Point and Newport News, Va., by the Chesapeake and Ohio, Norfolk and Western and Virginian Railways. The commission has also suspended for a like period wharfage, handling and storage charges at municipal terminals, Norfolk, Va., on incoming and outgoing export and coastwise freight.

In the case before the I. C. C. of the **Lodwick-White Coal Co.**, et al. v. Director General, Chicago, Burlington & Quincy R.R. Co., et al., a supplemental report has been adopted by Division 1 of the commission, which considers the commission's previous report as well as its report in Increased Rates, 1920, and finds that the present rates on coal from complainants' mines on the Iowa Southern Utilities Co. in the southern part of Iowa to St. Joseph and Kansas City, Mo., and to Kansas City, Leavenworth and Atchison, Kan., and points in Missouri intermediate to the Missouri River points, subject complainants' mines to undue prejudice and disadvantage and unduly prefer the mines of their competitors in the Centerville group to the extent that the rates from complainants' mines exceed those contemporaneously maintained from Centerville and Trask, Iowa, to the same destination by more than 13 1/2c. per ton. A further finding is made that out of the joint through rates to be established in accordance with these findings, while the rates remain upon a level 35 per cent higher than those with which we previously dealt the Utilities company will be entitled to a division on coal in carloads of 27c. per ton; and to a like division on all shipments to Omaha, Neb., and points on the lines of the Burlington & Rock Island west of the Missouri River, named in the tariffs referred to in previous report.

The I. C. C. has authorized the Illinois Coal Traffic Bureau to intervene in the case

## Trade Catalogs

**Power Transmission Machinery.** The A. & F. Brown Co., Elizabethport, N. J. Catalog 66. Pp. 129; 5 x 8 in.; illustrated. Contains prices, cuts and data on manufacturer's products.

**Small D-C Generators and Exciters, Type ML.** General Electric Co., Schenectady, N. Y. Bulletin 40,017A. Pp. 4; 8 x 10 1/2 in.; illustrated. Describes line of small, belted, direct-current generators, ML type.—Advertiser.

**For the Mine.** The Cutler-Hammer Mfg. Co., Milwaukee, Wis. Publications 836. Pp. 48; 8 1/2 x 11 in.; illustrated. Describes C-H products used extensively in the mining industry.—Advertiser.

## Coming Meetings

**Illinois Mining Institute** will hold its next meeting on Nov. 20 at Springfield, Ill. Secretary Martin Bolt, Springfield, Ill.

**Coal Mining Institute of America** will hold its annual meeting Dec. 8, 9 and 10, 1920, in the Chamber of Commerce Auditorium, Pittsburgh, Pa. Secretary, H. D. Mason, Jr., Chamber of Commerce Bldg., Pittsburgh, Pa.

**American Mining Congress** will hold its annual meeting at Denver, Col., Nov. 15 to 19. Secretary J. F. Calbreath, Munsey Building, Washington, D. C.

**The American Society of Mechanical Engineers** will hold its annual meeting Dec. 7, 8, 9 and 10 in the Engineering Societies Building, 29 West 39th St., New York City.

**American Gas Association** will hold its annual convention Nov. 15 to 20 at the Hotel Pennsylvania, New York City. Secretary, Oscar H. Fogg, 130 East 15th St., New York City.

**The American Petroleum Institute** will hold its annual meeting Nov. 17, 18 and 19 at the New Willard Hotel, Washington, D. C. General secretary, R. L. Welch, 15 West 44th St., New York City.

# CURRENT PRICES—MATERIALS & SUPPLIES

## IRON AND STEEL

**STRUCTURAL MATERIAL**—The following are the base prices, f.o.b. mill, Pittsburgh, together with the quotations per 100 lb. from warehouses at the places named:

	—New York—		St. Louis	Chicago
	Mill Pittsburgh	Current One Year Ago		
Beams, 3 to 15 in.	\$2.45@3.10	\$4.30	\$3.47	\$4.04
Channels, 3 to 15 in.	2.45@ 3.10	4.30	3.47	4.04
Angles, 3 to 6 in., $\frac{1}{2}$ in. thick.	2.45@ 3.10	4.30	3.47	4.04
Tees, 3 in. and larger	2.45@ 3.75	4.35	3.52	4.09
Plates	2.65@ 4.00	4.50	3.67	4.24

**BAR IRON**—Prices in cents per pound at cities named are as follows:

New York	Pittsburgh	Denver	St. Louis	Birmingham
4.75	4.75	4.95	3.57@4.50	5.00@6.50

**NAILS**—Prices per keg from warehouse in cities named:

	Mill Pittsburgh	St. Louis	Chicago	Denver	Birmingham	San Francisco
	Current	Current	Current	Current	Current	Current
Wire	\$4.25	\$3.35	\$4.45	\$5.40	\$6.00	\$6.45
Cut	None	8@11	....	....	....	8.95

**TRACK SUPPLIES**—The following prices are base per 100 lb. f.o.b. Pittsburgh for carload lots, together with the warehouse prices at the places named:

	Pittsburgh	Chicago	St. Louis	Denver	San Francisco	Birmingham
Standard railroad spikes $\frac{1}{2}$ -in. and larger	\$4.00	3.40@4.00	\$5.34	\$5.50	\$7.75	\$6.00
Track bolts	6@6.50	4.60@5.80	7.00	6.75	8.75	8.50
Standard section angle bars	3@4	2.75@3.40	2.00	5.05	5.30	....

**COLD FINISHED STEEL**—Warehouse prices are as follows:

	New York	Chicago	Cleveland
Round shafting or screw stock, per 100 lb. base	\$6.36	\$5.90	\$6.00
Flats, squares and hexagons, per 100 lb. base	6.86	6.40	6.50

**HORSE AND MULE SHOES**—Warehouse prices per 100 lb. in cities named:

	Mill Pittsburgh	Chicago	St. Louis	Denver	Birmingham
Straight	\$5.75	\$7.00	\$7.00	\$8.15	\$7.25
Assorted	5.85	7.15	7.15	8.40	....

**STEEL RAILS**—The following quotations are per ton f.o.b. Pittsburgh and Chicago for carload or larger lots. For less than carload lots 5c. per 100 lb. is charged extra:

	—Pittsburgh—		—Chicago—	
	Current	Year Ago	Current	Year Ago
Standard Bessemer rails	\$55.00	\$45.00	\$45.00@55.00	\$45.00
Standard openhearth rails	57.00	47.00	47.00@ 57.00	47.00
Light rails, 8 to 10 lb.	2.88@3.63*	2.585*	2.45@ 3.50*	2.835*
Light rails, 12 to 14 lb.	2.84@3.59*	2.54*	2.41@ 3.34*	2.79*
Sight rails, 25 to 45 lb.	2.75@3.50*	2.45*	2.32@ 3.25*	2.70*

\*Per 100 lb.

**COAL BIT STEEL**—Warehouse price per pound is as follows:

New York	Cincinnati	Birmingham	St. Louis	Chicago	Denver
\$0.10	\$0.16 $\frac{1}{2}$	\$0.18	\$0.12	\$0.16 $\frac{1}{2}$	\$0.18

**DRILL STEEL**—Warehouse price per pound:

	New York	St. Louis	Birmingham	Denver
Solid	12c.@14c.	18c.	20c.	....
Hollow, $\frac{1}{2}$ hex.	17c.@20c.	22c.	....	21c.

**WIRE ROPE**—Discounts from list price on regular grades of bright and galvanized are as follows:

	New York and St. Louis
Hercules red stand, all constructions	20%
Patent flattened strand, special and cast steel	20%
Patent flattened strand, iron rope	5%
Plow steel round strand rope	30%
Special steel round strand rope	30%
Cast steel round strand rope	22 $\frac{1}{2}$ %
Iron strand and iron tiller	5%
Galvanized iron rigging and guy rope	+12%

Western and California territory — 20%, plow steel; 22 $\frac{1}{2}$ %, galvanized rigging and guy rope.

## CONSTRUCTION MATERIALS

**ROOFING MATERIALS**—Prices per ton f.o.b. New York and Chicago:

Tar felt (14 lb. per square of 100 sq.ft.) per roll	\$3.55
Tar pitch (in 400-lb. bbl.) per 100 lb.	2.25
Asphalt pitch (in barrels) per ton	56.50
Asphalt felt (light) per ton	132.00
Asphalt felt (heavy) per ton	138.00

**Common Brick**—Per 1000:

Denver	\$15.00
Chicago	15.00
St. Louis	17.00

**LUMBER**—Price of pine per M in carload lots:

	1-In. Rough 10 in. x 16 ft.	2-In. T. and G. 10 in. x 16 ft.	8 x 8 in. x 20 ft.
St. Louis	\$.....	\$.....	\$56.75
Birmingham	28.00	35.00	33.00
Baltimore	52.50@60	54@60	72.50

**EXPLOSIVES**—Price per pound of dynamite in small lots and price per 25-lb. keg for black powder:

	Low Freezing 20%	Gelatin			Black Powder
	40%	60%	80%		
New York	\$0.3325	\$0.3625	....	....	\$2.30
Boston	.28	.31	.34	....	....
Kansas City	.2475	.27	.30	.34	2.40
New Orleans	.265	.295	.325	.3925	2.90
Seattle	.18	.205	.225	.2925	2.60
Chicago	.2175	.2525	.2975	.34	2.45
Minneapolis	.2272	.2629	.2935	....	2.90
St. Louis	.25	.285	.315	.3575	2.60
Los Angeles	.22	.27	.31	....	2.95

## MISCELLANEOUS

**BABBITT METAL**—Warehouse prices in cents per pound:

	—New York—		—Cleveland—		—Chicago—	
	Current	One Year Ago	Current	One Year Ago	Current	One Year Ago
Best grade	90.00	90.00	61.00	80.00	60.00	75.00
Commercial	50.00	50.50	21.00	18.50	15.00	15.00

**HOSE**—Following are prices of various classes of hose:

	Fire			50-Ft. Lengths
	First Grade	Second Grade	Third Grade	85c. per ft.
Underwriters' 2 $\frac{1}{2}$ -in.	....	....	....	30%
Common, 2 $\frac{1}{2}$ -in.	....	....	....	....
4-in. per ft.	\$0.60	\$0.40	\$0.30	....
First grade	20%	30%	45%	....

**LEATHER BELTING**—Present discounts from list in fair quantities (1 doz. rolls):

Light Grade	Medium Grade	Heavy Grade
30%	25%	20%

**RAWHIDE LACING**—(For cut, best grade, 25%, 2nd grade, 30%.  
(For laces in sides, best, 79c. per sq. ft.; 2nd, 75c.  
(Semi-tanned: cut, 20%; sides, 83c. per sq. ft.)

**PACKING**—Prices per pound:

Rubber and duck for low-pressure steam	\$1.00
Asbestos for high-pressure steam	1.70
Duck and rubber for piston packing	1.00
Flax, regular	1.20
Flax, waterproofed	1.70
Compressed asbestos sheet	.90
Wire insertion asbestos sheet	1.50
Rubber sheet	.50
Rubber sheet, wire insertion	.70
Rubber sheet, duck insertion	.50
Rubber sheet, cloth insertion	.30
Asbestos packing, twisted or braided, and graphited, for valve stems and stuffing boxes	1.40
Asbestos wick, $\frac{1}{2}$ - and 1-lb. balls	1.10

**MANILA ROPE**—For rope smaller than  $\frac{1}{2}$ -in. the price is  $\frac{1}{2}$  to 2c. extra; while for quantities amounting to less than 600 ft. there is an extra charge of 1c. The number of feet per pound for the various sizes is as follows:  $\frac{1}{2}$ -in., 8 ft.;  $\frac{3}{4}$ -in., 6 ft.; 1-in., 4 ft.; 1 $\frac{1}{2}$ -in., 3 ft.; 2-in., 2 ft. 10 in.; 2 $\frac{1}{2}$ -in., 2 ft. 4 in. Following is price per pound for  $\frac{1}{2}$ -in. and larger, in 1200-ft. coils:

	Boston	New York	St. Louis	Chicago	Minneapolis	San Francisco	Birmingham	Denver
	\$0.324	.29	.26 $\frac{1}{2}$	.27 $\frac{1}{2}$	.29 $\frac{1}{2}$	.27	....	....
	....	....	....	....	....	....	....	....

**PIPE AND BOILER COVERING**—Below are discounts and part of standard lists:

PIPE COVERING		BLOCKS AND SHEETS	
Pipe Size	Standard List Per Lin.Ft.	Thickness	Price per Sq.Ft.
1-in.	\$0.27	$\frac{1}{2}$ -in.	\$0.27
2-in.	.36	1-in.	.30
3-in.	.45	1 $\frac{1}{2}$ -in.	.45
4-in.	.60	2-in.	.60
6-in.	.80	2 $\frac{1}{2}$ -in.	.75
8-in.	1.10	3-in.	.90
10-in.	1.30	3 $\frac{1}{2}$ -in.	1.05

85% magnesia high pressure. List + 5%  
For low-pressure heating and return lines. { 4-ply.... 50% off  
3-ply.... 52% off  
2-ply.... 54% off